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Journal

1975

Hastings Reservation, Calif.
Oregon
Misc. Localities, Calif. and Texas
Mexico
Costa Rica
Panama
Hydromantes trip, central Sierra Nevada
MVZ *Bolittoglossa compacta*

Hastings Reservation, Calif.

18 January - 1 March 1975

Hanken, James

1975

Journal

Hastings Reservation, Carmel Valley, Monterey Co., Calif.

18 Jan

Arrived here ~~[illegible]~~ in early evening 15 Jan to ~~spend more time in the field~~ get more data on amphibian activity, habitats, etc. Rainfall has been unusually low this season: by this time usually half the season's rainfall has fallen but at this time rainfall is 3" below norm. In addition the weather has been sunny and warm. ~~[illegible]~~ The high temp for 13 Jan was 81°F, and the past few days have had comparable temps. Finch + Robinson Creeks are running but Big Creek is not. All in all, not the best amphibian weather. ~~[illegible]~~ Places visited this trip are as follows: 16 Jan AM – N slope P.O. Ridge W of Melin Gate; 16 Jan PM – N- + E-facing slope E of Robinson ~~[illegible]~~ Prairie, S of Corral Field, and N of Lower Bridge; 17 Jan AM – SW-facing slope P.O. Hill between 1st + 2nd peaks down to level of Post Flat, then down to road via S boundary fence; 17 Jan PM – N-facing slope S of Arnold Rd. Flat and W of Arnold Rd, W to 1st deep ravine – Arnold Rd Flat S of Arnold Rd.; 18 Jan AM – N-facing slope P.O. Hill between lower peak and point ½-way to upper peak. In total twenty-eight salamander recordings were made,

Hanken, James
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Hastings Reservation, Carmel Valley, Monterey Co., Calif.

18 Jan — predominately Aneides lugubris, with fewer Ensatina eschscholtzii and one Batrachoseps attenuatus. The salamanders are definitely present but are not ~~so~~ very common. It is too early to say whether ~~a~~ this reflects actual distribution or abundance, or if it is due to the lack of rainfall. Even many ~~the~~ relatively shaded N + NE facing slopes were often not apparently moist enough to ~~be~~ support salamanders above ground. In other areas, however, which were moist and well shaded and seemingly good habitat for salamanders none ~~were~~ were found. This was especially true with Batrachoseps relictus. ~~In~~ Certain situations which in other parts of its range would contain many sals (e.g. moist, shaded boards or logs) were found to have no salamanders. Attempts to work thru the moist litter layer were as unsuccessful; this should be done again though more thoroughly ~~as~~ along a transect. From the few records, though, some trends are ~~apparen~~ apparent. Aneides is found in the drier oak woodland situation much more frequently than Ensatina which is mostly found in the mixed ~~sclerof~~- sclerophyll forest. Aneides is the only species so far to be found anywhere other than under logs or boards, being taken

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18 Jan a number of times several feet above the ground under the bark of fallen, rotting ~~trees~~. The number of juvenile individuals found has been high - over 1/3 ~~of all~~ ~~for~~ all *Aneides* found were < 3 cm (s-v). These individuals hadn't yet developed the adult patterning and still had a dorsal suffusion of fine light speckling, giving the dorsum a ~~clouded~~ cloudy appearance. Perhaps *Aneides* deposits eggs soon after the first rains in the fall and these are this year's hatchlings. Several small *Ensatina* were also found. There is some lizard activity apparently due to the warm, sunny weather. Walt Koenig reported seeing *Sceloporus* active on Arnold Field on 16 Jan. I found one *Eumeces* active in a sunny clearing ~~on~~ E of Robinson Prairie. ~~Other~~ apparently hibernating reptiles ~~were~~ found included ~~the~~ other *Eumeces*, two *Gerrhonotus* (one sub-adult, and one juvenile ~5 cm s-v ~~ap~~ possibly representing last summer's young), and one *Contia tenuis*. No *Taricha* were found in terrestrial sites nor in any of the 5 or 6 sites checked in Finch + Robinson Creeks. Pygmy owls were heard calling in the evening ~~ea~~ by the Lower Barn and during the day on P. O. Hill, and one

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Hastings Reservation, Carmel Valley, Montery Co Calif

18 Jan screechowl (Otus asio) was frightened out of a hollowed tree trunk on the N slope of P.O. Hill.

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Hastings Reservation, Carmel Valley, Monterey Co, Calif

9 Feb Arrived here evening of 7 Feb to add more amphibian data to survey. Critical rain shortage which had been ~~[illegible]~~ at present in Calif ended abruptly ~10 days ago with several days of rain which has continued off + on until the present. Hastings had ~4" in a 48-hour period last week with additional rain yesterday + last night. The lane is muddy, all three creeks are running, and the woods are wet. Yesterday AM visited the Arnold property N of the ridge running ESE from the Arnold Cabin, and E of the 1st deep ravine W of " ". As stated above the woods were wet: both the litter layer + logs were damp and standing water was present in overturned oak leaves as well as standing trees. Despite these apparently favorable conditions, ~~[illegible]~~ turning ~~[illegible]~~ almost every rock and fallen log + limb encountered revealed only 6 salamanders: 2 *Ensatina* + 4 *Batrachoseps*. Three of the latter were found under rocks in ~~[illegible]~~ an especially moist area below Arnold Spring, the fourth inside a rotten log. The status of *Batrachoseps* remains a mystery. The habitat seems suitable for them but they are not found to be abundant. Possibly they are occupying the leaf litter itself and hard to reach places

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9 Feb inside logs, making them less readily observed. However, I am using the same ~~technique~~ method of ~~collecting~~ search that I ~~use~~ use in other parts of the genus' range where I've found them much more readily. Maybe they do actually favor rocks and then only occupy the scattered areas on the res. where rocks are abundant. Yesterday PM went to the top of Red Hill, the "saddle" W of the peak, and the S. facing slope E of the lower chaparral patch. It was raining constantly. Turning of at least several hundred ~~sm~~ small lava rocks revealed several Batrachoseps. They were especially abundant on the top of Red Hill under isolated rocks lying on the ground (vs. in clusters). This ~~is~~ ~~similar~~ confirms similar observations from the same location. Eight ~~Eum~~ Eumeces ~~s~~ of various sizes were found in the same manner, all apparently inactive and hibernating. Last night Walt Koenig and I went night driving in the rain between Arroyo Seco and a point ~4 mi. W. of the reservation. Hyla regilla were heard calling at several points along Finch Creek. ~~Rain sinks~~ At least two rain sinks along County Rd G 16 W of the res. were found to have breeding choruses

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Hastings Reservation, Carmel Valley, Monterey Co, Calif.

9 Feb of Hyla. We stopped at one 1.3 mi. W of the
res. and collected 6 frogs, including an
amplexed pair. Other herps found on the
road included Ensatina, several Bufo boreas,
and more Hyla. No Taricha were observed.
This AM I worked Poison Oak Hill N of P.O. Ridge,
W of the lower peak, and E of the Madingate.
Several sals were found, ~~as well as~~ (this area,
~~ag~~ while still a ~~a~~ moist oak-madrone forest,
seemed more open with less groundcover)
and two apparently hibernating Contia tenuis
were found under logs on P.O. Ridge. Jim
Griffin reported seeing several Taricha DOR
last week after the rains, and also one
DOR Ambystoma tigrinum by the Tularcitos
Ranch (they are known to have bred there
regularly in the past). No Ambystoma were
found on the road last night; might they
have already made their move to Blomquist
Pond, if that is indeed where they are
going? One Rana aurora was found 2.7 mi. E of the Hastings turnoff. ~~So~~ The Dodecatheon clevelandii
is already flowering, as well as Dentaria
californica var. californica (milkmaid).

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Hastings Reservation, Carmel Valley, Monterey Co., Calif.

28 Feb Worked all three creeks on reservation except Big Cr. above HQ in search of Taricha. Reports last fall had newts DOR after heavy rains, indicating that they were active at least at that time. No newts were found today in any of the creeks. They wouldn't be expected to be found in swift water, but even slow moving parts or standing pools in the stream bed were void of newts. Examination was mostly limited to looking down while walking in the stream, but occasionally partially submerged rocks were overturned. ~~Finally~~ Three ♀'s were found ~~und~~ under logs within 20' of Finch Creek near the lower bridge (see maps). They appeared gravid (swollen abdomen) and a ~~wea~~ had a granular integument with slightly dorsally keeled tail. ~~Based~~ I am tempted to say that ~~the~~ newts aren't breeding in the streams (not even larvae were found), but these records and the large amount of other records from along the roads by the creeks suggest that newts are breeding here. Could this be just an abnormally late season due to the late and infrequent rains? or do they actually pass the streams in favor of ~~st~~ other water off of the

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Hastings Reservation, Carmel Valley, Monterey Co, Calif

28 Feb

reservation (e.g. Blomquist Pond)? The newts at Briones Park, Contra Costa Co, are already breeding. Blomquist Pond will be checked for adults and larvae in a few weeks. There has been essentially no rain here since my last visit and most of the days have been sunny + warm. The ground has been drying out once again, but ~~som~~ one Ensatina + Aneides, each were found under moist logs today. ~~Sun~~ The ~~te~~ warm sunny weather has brought out the lizards, with Uta, Sceloporus, and Eumeces found active today. Hyla was heard calling last night and tonight, as well as during daylight today. They seem to be present ~~a~~ in all habitats as long as the streams are running (as are all three, except for some parts of Big Cr. above Long Field). Hyla eggs were found in the Lower Barn and Long Field Water Troughs. ~~H~~ Tadpoles at rear limb-bud stage were found also in the former. Spring appears to be coming early this year, with several new species of ~~[illegible]~~ wildflowers in bloom since my last visit, and what appears to be this year's young of Citellus beecheyi

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Hastings Reservation, Carmel Valley, Monterey Co., Calif.

1 March Worked ~~P.O.~~ Poison Oak Hill E of the upper peak this AM. ~~[illegible]~~ The E+S slopes were dry exposed areas, mostly of oak woodland and chaparral, with some *Aesculus californica* in the ravine bottoms. The N-facing slope is dry oak woodland at high elevations, becoming *Q. agrifolia* and oak-madrone forest lower down. *Sceloporus occidentalis* was ~~comm~~ common in exposed, sunny areas. Even the shaded, lower areas were mostly dry, and only three salamanders were found. *Ensatina* is probably present throughout these areas, with *Aneides* present in more open situations and the oak woodland. Two mountain quail were seen in the ravine at the SE corner of the P.O. Hill property, and a small ~~spon~~ seep was found ~~of fe~~ in a ravine a few feet from the E boundary fence due E of the upper peak. Sunny skies this AM are clouding up at present (~3PM).

Oregon

23 - 29 March 1975

Hanken, James

1975

Journal

Home of Margie Reala, Corvallis, Benton Co County, Oregon

23 March Arrived here yesterday evening with Sally Susnowitz after having left from Berkeley approx 10 AM 20 March. We had intended on driving up quickly as far north as Corvallis (via Interstate 5 at least as far as Weed, Calif) and then heading W to the coast before ~~descending~~ turning S to return to Berkeley via the Coast Range. Our plans were altered somewhat, however, by the appearance of a severe storm beginning in the early AM of 21 March which left heavy rain in northern California and Oregon and snow to the extent of blizzard conditions at high elevations (e.g. Sierra-Nevadas, Cascade Range, Trinity Mtns, Siskiyou Mtns). We camped at the Hiry Bay campground of the Shasta Lake Recreation Area, Shasta Co. (approx 25 mi. N of Redding) on the eve of 20 March. Heavy rain fell during the night, turning to snow by 8:00 AM (elev 1065'). Interstate 5 North of Redding thru the Siskiyou + Trinity Mtns soon closed, as were roads E + W of Redding. We spent the day + night of 21 March in Redding. By yesterday (22 March) morning the roads were passable, and we continued along Int 5 to Eugene, Oregon

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Journal

Home of Margie Raaka, Corvallis, Benton County
Oregon

23 March — and then on ~~Rd~~ Rte 99 W north to Corvallis. The rear muffler broke off from the exhaust pipe on my car while still in Redding and we ~~drove~~ have driven with the car that way until now. Today we wanted to stay relatively close to Corvallis because of the car, so investigated several localities in the vicinity for salamanders. Corvallis lies along the E edge of the Coast Range; ~~and~~ a flat, broad valley then ~~extends~~ lies E between it and the Cascade Range. Taking rte 99W north out of Corvallis we ~~first stopped at the~~

~~Locality 1~~ — ~~McDonald State Forest + Game Refuge~~ headed W on Tampico Rd (County Rte. 65 ~~?~~, ~3.7 mi. N of Lewisburg) ~~then~~ for ~1.3 mi., then S on County Rte. 45 for 5.6 mi. to the entrance of McDonald

Locality 1 — State Forest + Game Refuge. Here a ~~creek~~ ~~stream~~ stream is bordered on both sides by steep forested slopes of 1° *Pseudotsuga menziesi* forest interspersed with areas of shorter secondary growth, primarily *Arbutus menziesi* and small Douglas firs. We walked in along the fire trail W of the stream for ~1/4 mi. stopping at several spots to turn logs, bark, rocks and rake through rock rubble and talus along the road. Three *Ensatina eschscholtzii picta* were found

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Home of Margie Reaka, Corvallis, Benton County, Oregon

23 March within 20' of each other, each under a piece of ~~d~~ Douglas fir bark in an exposed area on a ~~slope of madrone~~ madrone-dominated slope. All were found within ~~a~~ one 5-minute period. Time of observation was ~~[illegible]~~ 1115-1245 hours; no other sals were found here. Returning N along
Locality 2 rte 45 we stopped after 2.2 mi at a slope ~~with many~~ which had recently been logged as indicated by the ~~[illegible]~~ few isolated Doug firs and overgrowth of ferns and low thickets. No sals were found here between
Locality 3 1300-1315 hrs. 3.0 miles farther north along ~~Cty~~ County ~~State~~ Rte 45, we examined a slope of 1° untouched Douglas fir (closed canopy, ~~and~~ undergrowth of ferns). One ♀ *Taricha granulosa* was found beneath ~~a~~ a fallen log. ~~She~~ & It appeared swollen with eggs. Time of obs. 1315-1400 hrs. The nearest stream from the slope appeared ~~on~~ across the road ~1/8 mi. across a plowed field. It was not examined for other newts, but a pond at the confluence of two streams at the junction of Rte 99 and County Rte. 65 was found to have no newts. Next we stopped at Sarah
Locality 4 Helmick State Park, ~~Benton~~ Linn County, located ~12

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Home of Margie Reaha, Corvallis, Benton Co, Oregon

23 March Miles ? N of Lewisburg off Hwy 99W. This is only a small tract of land, more ~~as~~ a roadside picnic area than park. The main area is bounded on the N + W by a stream ~40' wide which was quite swollen and couldn't be crossed. The ground E + S of the stream was only a few feet above water level and appeared to have been flooded within the last few days. Only a few logs were turned during the 1/2 hour which we were ~~the~~ here, and no ~~s~~ sals were found. Next we drove

Locality ? to Baskett Slough Nat'l Wildlife Refuge, Linn County, just west of Rickreall. This site is located even farther E from the main axis of the Coast Range than the previous locality and appeared poor habitat for sals (low, rolling grass-covered hills). We did not ~~stay here~~ work this area. A flock of Branta canadensis (at least 20) was seen on an adjoining plowed field

Bayshore Motel, Coos Bay, Coos County, Oregon

24 March Sally Sussworthy and I ~~stayed~~ retreated here to get out of the rain which is still coming down hard ~~and making camping~~ making camping difficult. The motel owner said that the rain has been

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Bayshore Motel, Coos Bay, Coos County, Oregon

24 March falling continuously for the last ten days. ~~(?)~~ 24 March had 4.5 inches alone. He indicated that while this much rain isn't uncommon, it usually falls in January or December ~~&~~; i.e. ~~late~~ late season. Weather reports predict clearing tom'w. Finally had the car repaired ~~in~~ in Eugene after the SAAB dealer in Corvallis ~~(?)~~ it was found to be without the necessary spare parts. Set out at ~1300 hrs from Eugene towards the coast ~~(?)~~ along Rte 126. ~6.5 mi. W of ~~to~~ the Walton P.O. we ~~headed~~ turned S along the road bordering Siuslaw ~~Cr~~ R. After 1.6 mi we ~~headed~~ turned W across the Siuslaw R. ~~to~~ on the Whittaker Creek Recreation Area Access Rd for ~.2 mi.

Locality 6 until coming to the Whittaker Cr. Recreation Area. Here we worked the N-facing slope S of the creek which is primarily birch-forested with a few douglas firs and many ferns. Despite the abundance of ~~several~~ moss-covered rotten logs at the lower edge of the slope, no sals were found. Logs and rocks were turned, logs opened, and bark peeled away and still no animals were found. Hyla regilla were heard calling from the stream which was quite flooded, but none were obtained. Time of obs. 1400-1530 hrs.

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Bayshore Motel, Coos Bay, Coos County, Oregon

24 March We returned to Rte 126, continued W to the coast town of Florence, and headed S on Hwy 101 to Gardiner, Douglas Co. Here we took

Locality 7 County Rd. 48 E along the Smith R. Approx 6.9 mi E of Gardiner the road runs along the edge of steep wooded slopes leading to the river valley. Several steep, canyons extend uphill N of the road; we examined two. The vegetation was mostly Pseudotsuga menziesi and red alder (Alnus rubra) with abundant ferns. Seven Plethodon were found (six adults, one juvenile ~20 mm (s-v)) believed to be P. vehiculum by the dark venter heavily flecked with white (dorsal stripes extended to the tail tip). Four adults were found either under or inside rocks and logs or under moss on logs. The two remaining adults and juvenile were found under 4"-thick logs within an inch of a small rivulet no more than 1½'-wide carrying the runoff from the canyon. These latter three were found within 3' of each other. Hyla regilla were heard calling from the flooded fields beside the river. Time of obs. 1630-1800 hrs. A heavy rain fell throughout. Returning to Hwy 101 we continued S to Coos Bay and the Bayshore Motel.

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Harris Beach State Park, Curry County, Oregon

27 March Spent morning of 25 March unsuccessfully looking for a good site NE of North Bend, Oregon to work for *Plethodon vehiculum* (if its range does extend that far south). No good seeps or stream access were found, so after a short stop at Oregon Dunes Nat'l Recreation Area Sally and I continued S on Hwy 101 to ~~Bandon where we took Hwy 42 S towards Coquille~~. Coos Bay where we turned E thru Eastside and on towards Allegany along the Coos River Rd.

Locality 8 7.5 mi E of the Eastside P.O. we worked a S-facing ravine intersecting the road, across from the Coos River. The dominant tree was *Umbellaria californica*, but otherwise resembled locality 7 in terms of cover, undergrowth, moisture, etc. Two more striped *Plethodon* (*dunni*?) were soon found in the interior of a log as was an *Ensatina*. No other sals were found for another hour when 2 more adult *Plethodon* and 3 juveniles were found under the bark of a fallen rotting bay tree. Ventral speckling on the sals is finer than those from locality 7 but not qualitatively different. Time of observation 1130-1300 hr. We returned to Hwy 101 S to Bandon, then headed E on Hwy 42 S towards Coquille.

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Harris Beach State Park, Curry Co, Oregon

27 March 3.3 miles W of the junction of Hwy's 42 + 42 S
Locality 9 in Coquille, Coos County, we stopped ~~at a see~~ along the road by a seep at the base of a road cut (~100' high) facing the Coquille R. Pseudotsuga douglasii was dominant above the cut which was itself overgrown with low shrubs and ferns. Six Plethodon (presumably dunni because of dorsal stripe extending before tail tip and locality) were readily found within ½ hour by peeling away rocks in the splash ~~z~~ zone or at the base of the seep. Time of observation 1430-1500 hrs. Continuing S on Hwy 42 we passed thru Myrtle Point, then took the road off of Hwy 42 towards Agness. We were told by a local resident that the road from Agness SW to Gold Beach was closed, so decided not to continue on towards Agness. We did stop
Locality 10 at another seep ~1 mi. N of the town of Gaylord similar to locality 9. Working the seep for ~15 minutes produced one Ensatina eschscholtzii in the rock rubble at the base of the seep. From here we then headed back to Hwy 101 S to Port Orford to spend the night. We had difficulty finding a place to camp (Humbug ~~3~~ Mtn. State Park was closed) and finally found a small ~~clearing~~ partly cleared area ~~among so~~ within a beach pine

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~~27 March~~ Harris Beach State Park, Curry Co., Oregon

27 March (Pinus contorta) forest at the edge of town

Locality 11 ~~on~~ along Garrison Loop 0.2 mi. S of the junction with Paradise Point Rd., Curry Co. Rain on-and-off during the night gave an added opportunity to study fluid dynamics within our tube tent. In the morning (26 March) I turned over a few of the several fallen or cut logs in our camp. Two Ensatina eschscholtzii were found within ~20 minutes. We then left Port Orford and headed S on Hwy 101 to look for Plethodon elongatus. At the town of Ophir we ~~headed~~ took the road inland towards the Rogue River (the road is called Squaw Valley Rd near the Rogue R.). I worked one talus slope by the road ~2 mi. outside of Ophir ~~unsucc~~ without

Locality 12 success. ~.5 mi. N of the Rogue R. (.7 mi. N of the junction of ~~Rd~~ Squaw Valley Rd and N Bank Rd) I worked another seep unsuccessfully. ~~and~~ I here descended down to the creek bordering the road and turned several rocks and logs at streamside. No Plethodon were found, but one ~~♀~~ ♂ Taricha granulosa was found in ~~the~~ a small pool alongside the stream. Grand fir (Abies grandis) was dominant in the area; willow and other shrubby vegetation was common along the stream. Continuing on to the Rogue R.

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Harris Beach State Park, Curry Co, Oregon

27 March We headed ~~to~~ E on N. Bank Rd. to the Lobster Cr. Br. and then onto sites visited by Sam Sweet and found to contain Plethodon vehiculum. We stopped ~~along N. Bank Rd~~ at a large talus slope along So. Bank Rd 0.7 mi. W of the Lobster Cr. Br. and looked for ~1 hr. with no luck. Along ~~the~~ Saunders Cr. Rd 0.8 mi. SE of So. Bank Rd. ~~and looked~~ turned rocks and logs at streamside for ~1½ hrs. with no luck. There were signs of recent flooding along the creek; might this ~~have~~ be responsible for the apparent lack of sals. We decided to head S to Pistol R. and another of Sam's sites

Locality 13A 3.5 mi. E of Hwy 101 on the N bank of Pistol River Rd. Here a ~~W~~ S facing slope is vegetated by a secondary growth ~~forest of deci~~ broad-leaved deciduous forest with some douglas firs. One ♂ Taricha granulosa was found in a pool of one of the many small streams ~~dow~~ descending the slope towards Pistol R. ~~8 approx. 15~~ Eight Batrachoseps attenuatus and ~~three~~ ten Ensatina eschscholtzii were found in the deciduous forest at the top of the slope, most of the Batrach. under ~~logs~~ rocks, most of the Ensat. under logs and bark. Continuing the attempt to find P. vehiculum we

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Harris Beach State Park, Curry Co., Oregon

27 March visited additional sites along old Hwy 101 S of Pistol R. A stop at a large talus slope 1.4 mi. N of Carpenterville produced nothing, but two P. vehiculum were finally found by picking away at the rock face of a road

Locality 13B cut 1.9 mi. NE of Hwy 101 towards Carpenterville. The sals were taken on ~~a both~~ ~~sid~~ either side of the road in an area dominated by douglas fir. One exposed cut was seen to be very exposed to the sun, receiving ~~full~~ direct sunlight in the afternoon.

Schooner's Lagoon Campground, N Bank Albion River, ~~Old~~ Albion, Mendocino Co, Calif.

29 March Arrived here last night after spending two days since last entry in extreme SW Oregon and NW California. The weather has been getting progressively better with clear skies and only a light ~~strong~~ westerly breeze the last two days. Sally + I left Harris Beach ~~on~~ in AM 28 March and drove S along ~~to~~ Hwy 101 to the Winchuck R. to visit some more localities of Sam Sweet where Plethodon dunni + P. vehiculum have been found sympatric. The first locality was

Locality 14 on No. Bank Rd. 1.8 mi. E of Hwy 101, Curry Co. Here a small brook flows down a S-facing slope of Pseudotsuga douglasi + Alnus rubra, beneath the road, and into

Albion River, Mendocino Co.
29 March 1975

Hastings Reservation, Monterey Co.
15 - 17 April 1975

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Schooner's Lagoon Campground, No. Bank Albion R, ~~the~~ Albion, Mendocino Co., Calif

29 March the broad exposed river bed of the Windwich R. Working the first 100 yds of the stream and banks away from the road produced two *P. elongatus* ~~Ensatina~~ ~~...~~ (one under a rock ~ 3' from water, the other inside a ~~r~~ rock face along the stream) one *P. dunni* (inside a ~~pile~~ pocket of wet leaves at streamside, and one *Batrachoseps attenuatus* (inside a rotten log ~ 20' up from the stream. Time of observation was 1100-1200 hrs. In an attempt to find *Aneides ferreus* we drove further ~~down 2.7 mi.~~

Locality 15 further along No. Bank Rd. to a point 0.2 mi W. of the entrance to Windwich Campground. This is the ~~the~~ site of a dense, well- ~~covered~~ shaded douglas fir forest sloping down towards the river. Peeling away bark from fallen and standing logs and turning rocks and logs produced no *A. ferreus* but 5 *P. elongatus* were found beneath the ~~g~~ bark of one large fallen Douglas fir. One *Ensatina eschscholtzii* was found beneath a piece of fallen bark. Time of observation was 12:30-1330 hrs. Returning to Hwy 101 S we entered California and continued on to Klamath, Del Norte Co. to try to get a sample of *Batrachoseps attenuatus* for Kaye Yanev.

Locality 16 Approx 3.5 mi N of Klamath we turned E ~~...~~ 0.4 mi. on Hunter Creek Rd. This area is heavily logged,

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Schooner's Lagoon Campground, No. bank
Albion R., Albion, Mendocino Co., Calif.

29 March and this site is one of a few visible shaded relatively untouched (at least not recently) slopes. The S-facing slope is densely forested with *Sequoia sempervirens*, Douglas fir, currants + ferns. Several fallen or cut decaying logs are present. Working this slope from 15:30 - 1730 hrs produced 3 *Ensatina eschscholtzii* and 7 *B. attenuatus*, almost all being found inside rotting logs. The *Batrachoseps* seemed to be especially hard to find, logs having to be broken open in order to reveal them. Might the ground already be drying out after the rains of a few days ago? *Hyla regilla* were heard calling from the gully alongside the road, feeding a small stream running down the slope; one adult ♂ and one juvenile were taken. Returning to Hwy 101 S we drove to Humboldt Redwoods State Park where we spent the night in a park campground. Continuing S yesterday morning (28 March) we drove to near Garberville,

Locality 17 Humboldt Co, to a site along Briceland Rd, 0.8 mi. W of the junction with Sprowel Crk Rd (Garberville Airport). Here a NE-facing slope ~~covered with Douglas fir~~ is covered with Douglas fir in the steeper areas, with madrone and

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Schooner's Lagoon Campground, No. bank Albion R., Albion, Mendocino Co, Calif.

29 March tanbark oak covering the higher, more-level, more-exposed slopes. A small stream cuts a deep ravine in the slope. Huckleberry forms an extremely dense understory over much of the slope. One *Ensatina* was found inside a rotten log during the approx 1½ hrs. of observation (1030-1200 hrs.)
We then returned to Hwy 101 S to Leggett where
Locality 18 we took Hwy 1 S. At 24.5 mi. N of Westport, Mendocino Co., we stopped at a large W-facing talus slope and rock-face seep edging the road. The area was well-shaded, with Douglas fir, madrone, tanbark oak and some coast live oak. Picking away at the talus and loose rocks for approx 20 mins. resulted in finding one adult and one juvenile *Aneides lugubris*. Both were found inside moist rocks (different from the more common oak log habitat!). No *A. flavipunctatus* were found. Continuing S on Hwy 1 S we later stopped in the Jackson State Forest, Mendocino Co at a locality suggested
Locality 19 by Ted Papenfuss for finding *A. ferreus*. On Rte 20, approx 8.0 miles E of the junction with Hwy 1, we stopped at a relatively flat stand of redwood,

Hanken, James 1975

Journal

Schooner's Lagoon Campground, N bank Albion R., Albion, Mendocino Co., Calif

29 March ~~and~~ Douglas fir, and red alder (*Alnus rubra*). Turning rocks and logs and peeling away bark for ~1½ hrs (1530-1700 hrs) resulted in finding only three *Batrachoseps attenuatus*, all inside rotting logs. Again, I was impressed with the ~~e~~ possibility ~~may be~~ that the area is drying out quickly after the recent rains, reducing salamander activity. The surface litter layer was dry to the touch and crackled under foot, and the moss layer on several logs was noticeably dry. From this site we returned to Hwy 1 S to Van Damme State Park to camp; it was full, and we came to Schooner's Lagoon.

Museum of Vertebrate ~~Z~~ Zoology, UC Berkeley, Alameda Co., Calif

29 ~~30~~ March Returned to Berkeley at ~1500 hrs. We left Albion this AM at ~ ~~[illegible]~~ 1030 hrs via Hwy 1 ~~[illegible]~~ S to ~~[illegible]~~ Hwy 128 SE across Mendocino Co., to Hwy 101 S at Cloverdale, and on to Berkeley. We stopped at ~~three~~ two talus-road cuts along Hwy 128 in the redwood forest within 15 miles of the Coast to look for *Aneides flavipunctatus*, but none were uncovered in over an hour of picking away at rocks and talus. Sally Susnowitz and I

Hanken, James
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Journal

Museum of Vertebrate Zoology, UC Berkeley, Alameda Co., Calif

~~30~~ 29 March
Locality 20

made one additional stop at the Indian Creek County Park, ~~Mendocino Co.~~, 0.4 mi E of Philo, Mendocino Co. to turn and break open logs, etc. The campground comprises typical redwood forest (most trees Sequoia; ferns) at the eastern fringe of the ~~dis~~ distribution of redwood forest at that latitude. One Ensatina eschscholtzii ~~each~~ ~~oa~~ ~~klauberi~~ was found beneath ~~a log~~ a piece of fallen bark and one Taricha rivularis found walking across a decayed redwood log in the shade (the latter was not collected). No Batrachoseps were found during the ½-hr. of observation (1200-1230 hrs). From ~~this~~ here we drove essentially straight thru to Berkeley.

Hastings Reservation, Carmel Valley, Monterey Co., Calif

15 April

Arrived here yesterday at ~1500 hrs to spend a few days looking primarily for Ambystoma tigrinum breeding ponds. Weather here has been unseasonably cold: only one day this month has had temps above 60°F. According to Jim Griffin the weather has been mostly cold & overcast with some rain but mostly drizzle (for the season there has been ~25" of rain – ~5" above normal). Last night's low temp was in the 30's.

Hanken, James
1975

Journal

Hastings Reservation, Carmel Valley, Monterey Co, Calif

15 April Yesterday afternoon between 1600-1900 hrs I checked the three vernal pools on the Blomquist property on Haystack Hill for larvae. One pool, the first to be encountered when walking from the pumphouse along the Old County Rd, is ~20-25' across to a maximum depth of ~~?~~ ~18" partially submerging the grassy vegetation. The second, largest pool is NW of this first pool, elongate and at least 200' long by 50-75' across. Maximum depth appears to be at least 2-3'. The third pool, farther W along the Old County Rd, is >100' long by ~~40~~ 60-70' across, to ~~a~~ a depth of at least 2'. All three pools ~~are~~ fill in the rainy season with rain runoff and usually dry up ~~-~~ by summer. All are used to water cattle. Three Taricha torosa larvae were found yesterday in the first pool by dragging a dip net through the vegetation along the bottom. Only a few attempts were needed to find these larvae and several Hyla regilla tadpoles. Working the other two pools in a similar manner for over an hour and a half found no newt larvae, but several tadpoles ranging from ~1 cm to over 3 cm. A repeat visits today turned up five more newt larvae in the first pool, but none in the other two. The newt larvae range in size from ~2.5 cm to >4 cm; five were taken as specimens. No Ambystoma were found. Last night between 2200-2300 hrs, ~~and~~

Hanken, James
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Journal

Hastings Reservation, Carmel Valley, Monterey Co, Calif.

15 April ~~This morning Bob~~ Walt Koenig and I looked for larvae in the Blomquist Pond on Haystack Hill. No larvae were attracted towards our lights, and none were found by dipnetting along the edge among the reeds. This was made difficult by the steep banks, ~~deep~~ slippery mud, and thick reeds at water's edge. Several adult Rana aurora were ~~foun~~ observed, in addition to red-winged blackbirds and mallards. This afternoon I returned to the pond to ~~dipnet~~ dip-net again. No Ambystoma larvae were found during my ~~attempt~~ visit (at least two hours) although Hyla tadpoles were abundant and Taricha egg clusters were found. Possibly the larvae (if present) are out in the deeper portions of the pond on the other side of the reeds where I could not reach. Tom'w morning I will visit a pond on the Los Tularcitos Ranch ~~area~~; adult Ambystoma have been found nearby in the garden of the ranch house, possibly moving towards that pond.

17 April ~~Stoppe~~ Between 0900-1000 hrs yesterday I visited locality 4.3 mi. NW of the reservation entrance along County Rd. G16 to collect Batrachoseps for Kaye Yanev. S of the road is a gradual slope covered by mixed ~~-deciduous~~ sclerophyll Q. agrifolia forest; across the road a heavily grazed flat

Hanken, James
1975

Journal

Hastings Reservation, Carmel Valley, Monterey Co., Calif.

17 April oak woodland area ~~beside~~ dissected by a stream. 16 Batrachoseps, 6 Ensatina eschscholtzii and one juvenile Eumeces skiltonianus were collected. One Gerrhonotus multicarinatus (juv.) and a Sceloporus occidentalis were also found. The Batrachoseps were found to be much more common than at Hastings. I continued on to the Los Tularcitos Ranch ~8 mi. NW of the reservation to look for Ambystoma larvae in the pond beside the corral. The pond is over a hundred yards in diameter with little standing vegetation at its edge (a few trees at spots) and a few clumps of tules ~~a few~~ in spots a few feet in from the edge. No larvae were found during the several hours of observation, including dip-netting through the leaf litter and muck at water's edge and among the tules (a small rowboat provided access to the tules). Hyla larvae were found, as were Bufo boreas eggs. A pair of mute swans were in residence, as were several ~~Canada~~ Canadian geese and a green heron. At least thirty Clemmys marmorata were seen basking at the water's edge. This morning I examined Finch Creek between the junction with Big Cr. and Warner's ranch

Hanken, James 1975

Journal

Hastings Reservation, Carmel Valley, Monterey Co, Calif

17 April 0.3 mi. W of the reservation, and the length of Big Cr. below HQ for salamander larvae. None of any species was found, but *Hyla* tadpoles were observed

Mexico
(beg. with Texas)

26 April - 11 May 1975

Hanken, James

1975

Journal

A.D. Thomas ~~Mack~~ Truck Stop & Cafe, Del Rio, Val Verde County, Texas

26 April Arrived here at ~0900 hrs for breakfast. Am here as part of a field trip to NE Mexico thru the MVZ with Sam Sweet, Allen & Phyllis Greer. We left Berkeley at 1530 hrs. on Thursday 23 April and drove via rtes. 24 to I 680 to 395 to 58 to just outside of Mojave, Calif where we camped for the evening (arrived at 2300 hrs). The following morning (24 April) we continued E on rte 58 to ~~Indio~~ Cajon where we ~~p~~ picked up Interstate 10 East. Except for meal + rest stops we drove straight thru to our next camping area at a roadside rest area in Texas Canyon, just ~~E~~ E of Benson, Cochise Co., Arizona. Texas Canyon comprises a beautiful series of large granite boulder outcrops covering several hundred acres. Sam + I walked among the rocks from ~~@~~2130-2230 hrs. in the hopes of finding some herps — none were found. We continued E the following morning (25 April) on Int. 10 E thru New Mexico and into Texas. At Van Horn we headed S on Hwy 90 and continued S to a rest area just ~~E~~ E of the Pecos R. where we camped. This morning we arose and drove to Del Rio for breakfast. We have been driving

Hanken, James
1975

Journal

Mexico Trip

A.D. Thomas Truck Stop + Cafe, Del Rio, Val Verde Co, Texas

26 Apr pretty steadily ~~with~~ with little stops for keeps, but ~~on~~ along rte 90 we stopped for any road kills and ~~lizards~~ live animals on the road. At Fabens, Texas we spotted one Callisaurus draconoides at the ~~road~~ highway entrance but were unable to catch it. One Masticophis flagellum was found DOR on Rte. 90 S of Van Horn. ~~One~~ Crotalus atrox were found DOR 26.6 N of Sanderson and 11.6 mi. S of Dryden on hwy 90. One Masticophis taeniatus was found DOR 4.0 mi. S of Sanderson. One Elaphe guttata was found 0.6 mi. N of Cedar Sta. It was taken alive and catalogued by me.

Rest area along I35, ~15 mi. N Laredo, Texas

26 Apr. Sam Sweet + I entered Four-Mile Cave located ~1/2 mi. N of Del Rio on hwy 90. We found one Eurycea sp. nov in a pool at the bottom of the cave. The species is a fully neotenic ~~try~~ of the SSS type III. At the bottom of the first cave drop, still within the lighted zone, Sam found a Syrrhophus marnocki. While ~~we~~ we were in the cave the Green's found two Sonora episcopa. After caving we bathed in San Felipe Springs Creek along

Hanken, James
1975

Journal

Mexico trip

Rest area along I-35, ~15 mi. N Laredo, Texas

26 April Hwy 90 in Del Rio where we collected one *Cnemidophorus gularis*. After buying supplies and lunch in ~~Del R~~ Del Rio we headed S on Hwy 90 towards Laredo. ~~We~~ We stopped along Sycamore Cr. at the S edge of Val Verde Co to work the broad, exposed rocky creek bed and adjacent thickets ~~and~~ & scrubby vegetation. Several *Cnemidophorus* sp., *Sceloporus* sp., and *Ophisaurus* (*Holbrookia*) *texana* were found but none were collected. Allen Greer did collect one *Thamnophis proximus* beneath a rock adjacent to a small stream feeding the creek. Continuing S on Hwy 90 in the late afternoon several live & DOR *Phrynosoma cornutum* were found on or alongside the road, as were DOR *Crotalus atrox*, ~~&~~ *T. proximus*, & *Masticophis taeniatus*. In the evening a live *C. atrox* was seen and accidentally hit by us on ~~Hwy~~ Int 35 ~20 mi. N of Laredo. This latter snake, the live *Phrynosoma*, and any salvageable DOR specimens were collected.

Hanken, James
1975

Journal

Mexican Trip

Del Rio to Bentsen-Rio-Grande Valley State Park

22 Apr 1100 hrs. Camped last night at a rest area along Int 35 ~15 mi. N of Laredo, Texas. Had breakfast in Laredo, ~~cashed~~ changed some money, bought food + more supplies, and should cross border around Noon.

2300 hrs. After buying various supplies this AM in ~~Del Rio~~ Laredo we attempted to cross the border into Mexico, but were unsuccessful due to Sam's inability to get ~~a~~ his tourist visa stamped (because of his long hair) and our inability to get a car permit (due to ~~not~~ the absence of license plates on our just-recently-bought vehicle). We tried to cross ~~a~~ later in the afternoon at Falcon and Roma but were again unsuccessful despite various stories and drastic measures (e.g. giving Sam a haircut). The remaining problem is the absence of licence plates, and ~~Alan~~ Al Greer called Alice Landauer of the MVZ this afternoon to try to work out some sort of solution; Hopefully it will be resolved tom'w. In the ~~meanwhile~~ ~~the~~ interim we have driven S towards Brownsville and have stopped for the night at Bentson-Rio Grande Valley State Parks, ~7 Mi. (by rd) ~~W~~ SW of Mission, Hidalgo Co., Texas. We stopped several times along the route today to collect animals or examine DOR's. These were as follows:

Hanken, James
1975

Journal

Mexican trip

27 Apr 2300hr (cont'd)

Del Rio to Bentsen-Rio Grande Valley State Park

1) St. Hwy 83, ~5 mi. N Lopeño, Zapata Co, Texas
Drymarchon corais erebennus - DOR

2) rest area ~2 mi. N Lopeño, Zapata Co, Texas
Cnemidophorus sexlineatus

3) rest area 6 Mi NW Roma on St. Hwy 83, Starr Co, Texas
Cnemidophorus sexlineatus

While heading towards our camping area in the State Park we stopped to work an area alongside a canal along St. Hwy 374, 0.6 mi. E of the junction with farm road 1427 in Pereyville, ~2.4 mi E of Palmview, Hidalgo Co. A dirt road along the canal was bordered by the canal on one side and a dense acacia-scrub forest on the other. Some "picnic-site-type" areas were present, but the area was heavily littered with refuse, garbage, and old tires, etc in clearings along the road and in the wooded areas. Al, Phylp, Philip, + I found nothing, but Sam found 7 Eumeces brevilineatus, 1 Hemidactylus turcicus, and 2 Sonora episcopa. All were found by turning various objects of garbage, fallen boards, and logs. The Sonora were found together under a fallen mesquite log. In addition Sam found a ♂ Gopherus berlandieri in an exposed area along the canal. The weather

Hanken, James

1975

Journal

Mexico Trip

Del Rio to Bentsen-Rio Grande Valley State Park

27 April 2300 hrs (cont'd) was overcast but warm. From here we continued on to the State Park and had dinner. After dark the four of us visited an apparently man-made temporary cattle sink adjacent to the canal. The water pond is at least several hundred yards wide and at least 15 yards in width. We had noticed frogs at the water's edge during daylight and returned to capture some. Only two frog species were present: Rana berlandieri - 20 caught in all, most metamorphosing juveniles, all but one found along the grassy water's edge (vs. the bank protected by the thickets; Bufo valliceps - 2 adults caught at water's edge, and one Bufo marinus. In addition Sam caught two Natrix rhombifera in the shallow water, and the Greer's caught two Storeria occipitamaculata one on dry land 6" from the water's edge, the other in the grass suspended above water at the edge. Upon returning to our campsite we found an additional two Bufo valliceps (JH 80 + 81; 2 Rana are JH 82 + 83).

Hanken, James

1975

Journal

Mexico trip - Rio Grande Valley State Park → Brownsville

28 April 1000 hrs Had a rough time sleeping because of the warm temps. & mosquitoes. ~~Woke~~ Awoke at dawn to a loud chorus of birds and investigated. Several boat-tailed grackles, chachalacas, golden-fronted woodpeckers, & ladder-backed woodpeckers were present. After showering in the park we drove out, at the same time seeing Lichtenstein's orioles, Scott's oriole (seen only by yellow tail coverts in flight, white-fronted doves, ~~I~~ Inca doves, and a bronzed cowbird. A Sigmodon hispidus was ~~found~~ ~~a~~ seen active in an exposed area alongside the road by a campsite. Continuing on to the town of Mission for breakfast we first stopped to ~~relea~~ photograph and return the tortoise found yesterday and found one large (>4') Pituophis melanoleucus alive on Hwy 83, 2.8 mi. W of Mission, on the E edge of Palmview

1400 hrs. ~~I~~ After breakfast we continued E on US 83 towards Brownsville. ~~and~~ We stopped at Resaca del Rancho Viejo, a small stream crossing US 83 2.3 mi. W of the junction with farm road 802, just W of Brownsville, Hidalgo Co. Texas. The setting was somewhat similar to the ~~canal~~ canal area visited yesterday

Hanken, James 1975

Journal

Mexico trip - Brownsville area

28 April 1400 hrs (cont'd) with a thorn scrub forest ~~the~~ with interspersed clearings of low (1-1½' high) dense ground cover, and streamside vegetation of high reeds and grasses. Several Cnemidophorus gularis were seen in the cleared areas and along the edge of the forest. Sam Sweet caught two, and the Greer's caught four. In addition, Sam found one Eumeces brevilineatus below a fallen railroad tie, and ~~ca~~ shot a Sceloporus olivaceus from an exposed fallen log.

2100 hrs After lunch Allen called Alice Landauer at the MVZ in Berkeley to check on possible arrangements for our finally getting into Mexico. She indicated that she sent the license plates to us in Brownsville % Sanborn's Mexican Car Insurance. Hopefully they will arrive tom'w or the next and we will, at last be off.

Later in the afternoon we drove out Texas route 48 towards ~~Point~~ Port Isabel. At a point

we stopped to look for herps. The vegetation was a low scrub + bunch grass plain less than a mile from the Gulf Coast. Several Opuntia's and yuccas were interspersed among

Hanken, James 1975

Journal

Mexico trip - Brownsville area

28 April

2100 hrs (cont'd) the landscape. No lizards or snakes were seen, but three *Gopherus berlandieri* were found at burrow entrances arranged within one small shrub-covered hillock; other vacant burrows were seen nearby. One shed skin of a *Masticophis taeniatus* was found among some bushes. Later, returning to Brownsville we stopped at several sites adjacent to irrigation canals with many cover objects (logs + refuse) to look for herps but none were seen except for a few frogs in a canal a few miles SE of Brownsville.

29 April

1100 hrs After dining in Brownsville we drove out to camp alongside the road ~10 miles SW of Harlingen, Hidalgo Co., Texas. Had a most disastrous evening due to warm temps, high humidity, and the most mosquitoes this side of the Canal Zone. Breaking up this monotony was a period of ~½ hr of monsoon winds which threatened to send my sleeping bag + contents north to somewhere near Fargo, North Dakota. Add to this a prolonged visit by a tractor-trailer truck and two State Police, capped off by two crop duster planes after sunrise.

Journal

Mexico trip - Birds

Black-bellied tree duck - Brownsville area
turkey vulture
white-tailed kite - Bentsen-Rio Grande Valley SP
red-tailed hawk
swainson's hawk - Texas
chachalaca - B-RGVSP

Hanken, James
1975

Journal

Mexico trip -

30 April

0900 hrs. Stayed overnight in a "Motel 6" last night in Brownsville after our license plates still had not arrived by late afternoon and the weather conditions (essentially identical to those of the night before) promised an equally enjoyable evening. We spent the day of 29 April in the Brownsville area visiting various localities for herps & and buying more supplies. ~~In the AM~~ In the AM we visited a canal along Hwy 281, mi. W La Paloma, Cameron Co., Texas. The area is essentially broad agricultural fields (cotton) ~~crossed~~ ~~by~~ variously transected by irrigation canals 6-10' wide, 1-2' deep, with the water surface level ~10-12' below the ~~fld~~ fields. Grass + scrub thickets line the canal with occasionally thorn forest outcrops running a good length of the canal. The canal was variously overgrown, and at times choked with water hyacinth. We tried pulling out hyacinths and examining the roots for _Siren_, but none were found. Sam Sweet collected two _Thamnophis proximus_, one at water's edge, the other in the water. In addition, he saw at least

Hanken, James 1975

Journal

Mexico trip - Brownsville area
30 April

0900 hrs (cont'd) one ~~other~~ Natrix rhombifera and three more Thamnophis. All snakes were found within 20' of the road (which crosses the canal); none were seen along the rest of the canal examined (several hundred yards) despite the apparent abundance of small (~½-1½") fish in the water. I saw two Cnemidophorus gularis at the edge of the grass-scrub thicket but was unable to capture any. Time of observation was ~1130-1230 hrs.

In the afternoon we stopped at Villa Nueva, 1.5 mi. W Brownsville City Limits, Cameron Co. This area was similar to the usual arrangement of agricultural fields and canals, but in addition there were several fence rows between cattle yards fringed with acacias and other thorned trees. There was also an extensive ~~th~~ thorn forest with adjacent grassy clearings with scattered low bushes. Cnemidophorus gularis were extremely common along the fence rows and clearings with scattered bushes. Sam collected nine, Allen two, and myself three. Sam chased a Cnemi into a ~~p~~ wood rat nest and while picking it apart ~~he~~ found a large (~5') Pituophis melanoleucus. I saw a Sceloporus

Hanken, James 1975

Journal

Mexico trip - Brownsville → Gomez Farias

30 April

0900 hrs (cont'd) olivaceus near a fallen exposed log at the edge of ~~a~~ ~~a~~ the thorn forest but was unable to secure it. At 1600 hrs. (after 2½ hours) we returned to Brownsville.

1 May

0800 hrs. Finally crossed the border yesterday around noon after receiving license plates from MVZ. The plates aren't exactly new; they are of the series last ~~a~~ issued 7 years ago and are most likely from the Museum's camper. However, they did the trick and we were across the border with permits with little difficulty. ~~After~~ We crossed at Brownsville, Texas which put us in Matamoros, Tamaulipas, Mexico. After a few minutes of direction-seeking we found Mex 101 and continued directly S to Ciudad Victoria. The area just S of the border is similarly disturbed as the Texas counterpart with extensive agricultural disturbance with borders of semi-tropical thorn forest. The disturbance diminishes ~~as~~ as one approaches San Fernando until there is extensive ~~tra~~ stretches of thorn forest with occasional yucca and agave, albeit somewhat overgrazed in places. After crossing the Rio San Fernando in

Hanken, James 1975

Journal

Mexico trip – Brownsville → Gomez Farias, Tamaul.

1 May

0800 hrs (cont'd) San Fernando the vegetation gets increasingly lusher with tall deciduous broad-leaved species becoming increasingly abundant, especially in streamcourses, although the thorn forest remains intact. From Ciudad Victoria we headed S on Mex 85 skirts the edge of the Sierra Madre Oriental and traverses an area of former extensive volcanic activity with lava flows and volcanic plugs visible in spots, ~~es~~ especially just S of the Tropic of Cancer. Topographic diversity increases steadily as we enter the foothills. At ~35 km. S of the turnoff to Llera de Canales we headed W towards the ~~l~~ town of Gomez Farias, Tamaulipas where we spent the night.

3 May

0830 hrs Yesterday morning left our campsite ~~on~~ on Sierra de los Mangos and ~~hiked~~ headed towards Rancho del Ciel, one of the localities frequently mentioned by Paul Martin in his survey of the herps of Gomez Farias. The ~~Ran~~ road to the Rancho is ~13-15 km long, first descending down from the Sierra de los Mangos to the W to the flats below and then ascends ~~a~~ the slopes further W too. The roads are used by

Hanken, James 1975

Journal

Mexico trip: Gomez Farias

2 May

0830 hrs (cont'd) loggers who appear to make only one trip up + down the mountain a day (using small trucks carrying 5-6 logs ~10' ~~thick~~ long × 1-2' wide). We managed to hitch a ride up the mountain with one of these trucks which saved us from the strenuous walk uphill in the heat and humidity. Before getting the ride we met a man coming down the road on a mule who was apparently the foreman of the Rancho who told us that one needed special permission from the owner to collect animals on the Rancho, and that the owner would not be returning until after ~~two~~ 2 P.M. Our ride took us along the road ~10 km, and then had to take a different road so ~~it~~ let us off. The vegetation had been gradually changing from the thorn scrub of the flats below, through thorn forest, to ~~the~~ the tropical, dry deciduous forest of the higher elevations. The latter was characterized by an increasing complexity of the vegetation with climbing vines and bromeliads adding to the density of the forest. There was a mixture of evergreen and deciduous trees including *Acer*, *Nyssa*, & *Quercus*. The woods were tinder dry, with leaf litter dry to the touch. No standing or flowing water was evident except a break in a water pipe (1/2-way up), apparently

Hanken, James 1975

Journal

Mexico trip: Gomez Farias

3 May

0830 hrs (cont'd) leading from a spring on top of the mountain to the ~~f~~ town below. The water soaked underground within 20' of the break.

There seems to be a definite paucity of herps active in this area at this time of year. Only a few *Sceloporus variabilis* were found, mostly on exposed rock outcrops along the road thru the thorn forest. Sam collected one *Ameiva* sp. and one *Anolis* sp. on the flats ~~~~ along the road thru grass + scrub, one *Scincella* (*Scincola*) on the road, and I collected one *Cnemidophorus tigris* in ~~~~ exposed brush by our campsite. One *Lampropeltis triangulum* ________ was found in the middle of the road in the area where thorn forest grades into tropical deciduous; it has a striking resemblance to coral snakes with alternating rings of red, black, + cream; it was collected gingerly. In addition, eight *Chiropterotriton* sp were found inside bromeliads in the dry forest ~~~~ in the area at the top of our ascent. In comparison with the surrounding forest, the bromeliads were surprisingly wet; some with moist interiors, others with interiors ~~containing~~ actually soaking wet. One of ~~~~ every ten bromeliads

Hanken
James
1975

Journal

Mexico trip: Gomez Farias

3 May

0830 hrs (cont'd) was found to have salamander (2 sals were found in 1) and the number examined was limited only by the height of the bromeliads. Despite this surprise, animals have been truly scarce. Whether this is common at the end of the dry season, ~~or~~ or due to the overcast ~~con~~ weather conditions is open to debate.

Late in the afternoon ~~we~~ drove to a partially cleared area alongside the road ~1 mi. outside of ~~Los~~ Gomez Farias. Adjoining the clearing is a family plowed field adjoining an extensive rock outcrop vegetated with yucca and thorn forest. Several Sceloporus ~~[illegible]~~ variabilis were seen among the rocks but none collected. Cnemidophorus were also relatively abundant; three were collected. However, the relative paucity of herps continues. I set eight Sherman live-traps with peanut butter + rolled oats along a line near our campsite (we stayed in the above area) but no animals were caught (no traps were even set off) ~~[illegible]~~

Hanken, James
1975

Journal

Mexico trip: Gomez Farias → Ciudad Valles

4 May

0800 hrs. The morning of 2 May ~~we~~ we left our campsite outside of Gomez Farias S on Mex 85 with the intention of heading further into the Sierra Madre Oriental to higher elevations ~~to~~ in hopes of having better luck collecting. We took rte. A70 ~~to~~ just N of Cd. Mante W to Ocampo. The road quickly crosses the Sierras ~~and~~ de ~~descends~~ los Mangos and then descends again into the ~~G~~ thorn forest. Ocampo lies in this forest and we decided not even to try it for herps. The rest of the day was spent driving in the vicinity of Cd. Valles for possible collecting sites. Driving W into the Sierras only brought disappointment as we found either burned-over once-new agricultural areas, or large swaths of land alongside the road presently on fire to clear them for agriculture. This is just an extension of what is happening in the lower thorn-forest areas where one can't drive far without finding recently- or presently-being burned areas. This burning is being carried to such an extent that the air in the vicinity of Cd. Valles is constantly overcast and dreary, with the sun often reduced to an orange dot in the sky. The air, too, smells of smoke, and breathing is often uncomfortable.

Hanken, James
1975

Journal

Mexico trip: Cd. Valles → W of Xilitla

4 May

0800 hrs After preparing specimens and giving the vehicle ~~[illegible]~~ and contents a major reorganization we left ~~the~~ our campsite at the Hotel Valles and headed W on Mex 70 for the Sierra Madre Oriental and higher elevations. We made stops at two localities in tropical deciduous forest - thorn forest intergrade, one at El Venadito, ~~San Luis Potosi~~, the other 9 mi. E Vicente Guerrero, both on Hwy 70 in San Luis Potosi. Both sites had an abundance of oaks and thorn ~~s~~scrub, ~~[illegible]~~ and exposed rock outcrops and clearings. However, once again a lack of herp activity was evident as only *Sceloporus* ~~[illegible]~~ *variabilis* was taken, ~~two~~ three at the former site, ~~[illegible]~~ (JH-2, AG-1) and one at the latter (SSS). Continuing over the crest of the Sierras we entered the ~~[illegible]~~ Central Plateau. This area was even drier than E of the Sierras with thorn scrub ~~[illegible]~~ and even more xeric desert vegetation prevalent. At a point 15.3 mi. E Rio Verde, San Luis Potosi, we stopped to ~~get~~ take a few pictures, and then decided to work a dry wash off to the side of the road for *Cnemidophorus*. After ~15 minutes nothing had been found ~~so~~ and Phlyp

Hawken,
~~Sam~~
James
1975

Journal

Mexico trip: Cd. Valles → W of Xilitla
4 May

0800 hrs (cont'd) Sam and myself were heading back towards the car. Allen Greer had also decided to return to the car, ~~and~~ and on the way back raked thru some leaf litter at the base of a large bush (~8-10' high) on the banks of the arroyo. There he found a small Anelytropsis papillosus. It was at the surface of the ground below the leaf litter in the shade of the bush. For the next 1½ hrs. the four of us searched the wash for a distance of ~300 yds. with only one more Anelytropsis found (again by Allen in a similar situation). The arroyo floor ~~is~~ itself is only ~10-15' wide with gradually sloping banks (leading to the road on one side). The banks are variously covered with thorn bushes ~~and~~ with small leaves and a more-broad-leaved tree (in flower at this time. Presence of leaf litter is confined to below the latter vegetation where it lies at a depth of one to several inches. It is in these patchy habitats where our two Anelytropsis were found. Allen remarked that he found the two in a way similar to that of looking for Anniella ~~...~~, i.e. raking away the leaf layer at the bases of bushes.

After finding no more Anelytropsis we ~~...~~ decided

Hanken, James 1975

Journal

Mexico trip: Cd. Valles ⇒ W of Xilitla

4 May

0800 hrs (cont'd) to continue W towards Rioverde where we turned SE towards Jalpan the road again enters the ~~S~~ Sierra Madre Oriental along a beautiful stretch of relatively untouched thorn forest & deciduous forest, especially where the road borders the deep canyon of the Rio Santamaria. At .4 mi. W El Trapiche we stopped along a bald cypress (Taxodium) lined tributary of the Rio Santamaria. Several metamorphosing, recently metamorphosed and tadpole Rana were collected by Allen + Sam. More Sceloporus ~~var~~ variabilis were seen. From here we continued S to Jalpan and thence E on Mex 120 towards the town of Xilitla. Just W of the turnoff towards Tres Lagunas we camped. This site is situated near the crest of the Sierras in a relatively untouched pine-oak forest. The ~~—~~ area is extremely dry. We arrived in camp at dusk and soon retired. This morning after awakening I took a small bird walk and found a group of three acorn woodpeckers and a lone ♂ Mountain trogon. Several unidentified hummingbirds and warblers were also seen.

Hanken,
James
1975

Journal

Mexico trip: Ahuacatlan area

4 May

1100 hrs. Left our campsite W of the turnoff to Tres Lagunas, ~~Sandan~~ Queretaro at ~ 0930 hrs and headed W to a point only a few hundred yards of our campsite where we stopped to collect some of the *Sceloporus* found basking in exposed sites alongside the road. Many large ♂'s were particularly exposed, but also wary which made collecting difficult. At this point the pine-oak forest has several partially-exposed clearings and an abundance of old and recently-fallen logs. In addition a limestone rock outcrop borders the road and continues up + down slope for a distance of ~ two hundred yards. Ten *Sceloporus* ~~torquata~~ were collected in all, either shot while basking on stumps or rocks or found under logs. ~~[illegible]~~ Allen + ~~[illegible]~~ Philip Green found one *Crotalus* sp. ~ 18" long ~~[illegible]~~ inside the base of a stump. In addition Sam Sweet found a *Eumeces* sp. under a fallen log. Considering the vast number of "good" logs turned, though, this must be considered a continuation of the trend of few herps observed on the trip. While driving away we attempted to collect several large ♂ *Sceloporus*

Hanken, James 1975

Journal

Mexico trip : Ahuacatlan area

4 May

1100 hrs. (cont'd) seen basking alongside the road, but ~~too~~ they too were wary and none were collected. Time of observation: 0945–1130 hrs.

We continued E on Mex 120 into the state of San Luis Potosi and the town of Ahuacatlan. Sam Sweet had been given locality data for caves in the area by Jas. Reddell, and we attempted to locate them. In Ahuacatlan we looked for ~~La~~ Cueva de La Iglesia (Cave of the Church). After many blank stares ~~and~~ or directions of dubious merit (including one man who ~~[illegible]~~ left us at the Church door!) we found ~~someone~~ ~~[illegible]~~ an old man who offered to show us the path to a cave ~~[illegible]~~ ~.5 km E of Ahuacatlan which is the source of the town's water. ~~[illegible]~~ The path he showed us was ~200 yds. W of the correct one which caused a walk of an extra hr. or two covering ~500 vertical feet. However, we found the cave at the base of a ravine below the road. ~~and~~ A family was there doing their wash; apparently many families in the area use it as their source of water. The cave is ~15' wide ~~[illegible]~~ ~~[illegible]~~ while it descends at an ~20° angle for ~75 yds. until water is ~~[illegible]~~ found in a small shallow pool in a larger

Hanken, James 1975

Journal

Mexico trip: Ahuacatlan area

4 May

1100 hrs (cont'd) chamber communicating with other tunnels above. As this is the dry season the water was not flowing; in the wet season the rain from nearby mountains must fill the entire cave and pour forth from its mouth. No salamanders were found, but we did find two *Syrrophus* sp. ~~[illegible]~~ Sam + I returned back to the road and met Phil + Al who not come with us to the cave. They had returned to the ~~ch~~ church and spoke to the priest who was an American and spoke English. The priest knew of the Cueva de la Iglesia, which in fact was in the backyard of the man who had shown us to the other cave, and only ~100 yds W of the church. Al had gone into it and ~~[illegible]~~ collected ~10 *Chiropterotriton magnipes* and 2 *Syrrophus* sp.. The four of us returned to this cave after Sam + I were picked up and collected an additional ~~[illegible]~~ 30± salamanders and three *Syrrophus* from the original cave and another connecting with it. Both caves lay ~20' below the surface of the ground, the former ~12' high, the latter ~25'. ~~Both~~ The former cave lay horizontally with many

Hawken, James 1975

Journal

Mexico trip : Ahuacatlan area

4 May

~~1100~~ 1100 hrs (cont'd) horizontal seams visible on the walls. It was 5-10' wide and ~80 yds deep with a smooth floor. It was easily traversed and salamanders were readily ~~obtained~~ found walking on the vertical cave walls and inside the horizontal cracks. The other connecting cave was much narrower with steeper walls and was less-easily traversed (the other section ~~was~~ had been used in past times for illegally-held religious services when they had been otherwise forbidden by law); I did not enter it but Sam & Allen did. In addition to finding salamanders, Allen found ~~a~~ an individual on a wall next to a ~~...~~ loop of ~~eggs~~ ~20 eggs laying end-to-end. The eggs were ~1/8" in diameter. These were collected.

After many parting words (most not understood) and "good-bye's" we ~~said~~ bid adieu to the crowd which had gathered and continued E out of Ahuacatlan, down off the tall steep mountain ridge, and on to Ciudad Valles, San Luis Potosí where we are spending the night at the Hotel Valles.

Hanken, James
1975

Journal

Mexico trip: Cd. Valles → Puerto de la Zorra
6 May

0700 hrs Left the Hotel Valles yesterday at ~9:30 and, after a stop at the local ice house, continued S on Mex Hwy 85 towards Tamazunchale. Two Anelytropsis localities lie between Cd. Valles and Tamazunchale and we hoped to find some likely habitat and find some. The first stop was the Hotel Covadonga, a few km. S. of Cd. Valles. The hotel is a broad plantation-type estate with large main building and several others adjoining it. Also on the grounds are a large golf course with scattered orange trees, and a small, few-acre section of tropical ~~rainforest~~ evergreen forest (banana trees and other lush vegetation). First we worked the drier area alongside the road outside the hotel property. There was abundant dry leaf litter beneath large trees and alongside a rock fence bordering the hotel. The leaf litter was raked thru extensively and cover objects turned, but no Anelytropsis or other herps were found. We then worked the small sección of forest within the hotel, checked below orange trees on the golf course, and walked along several of the small streams (1-2' wide which course thru the grounds. No Anelytropsis were found, but Sam Sweet found a Thamnophis sp. next to a stream

Hanken, James 1975

Journal

Mexico trip: Cd. Valles → Puerto ~~Vallarta~~ de la Zorra
~~Mexico trip~~: 6 May

0700 hrs ~~6 May~~ (Cont'd)

in the golf course. Near the main house we came upon a ~~dry sw~~ drained swimming pool with abundant leaf litter along the border between sides and floor, and several other piles ~~in~~ toward the middle. One Ctenosaura was found alive inside the pool. (JH #108) It was caught and found to be extremely skinny, presumably having had fallen into the pool and been unable to escape. No other herps were found by raking thru the litter. The only other herps seen were a
found by Allen Greer on the leaf of an elephant ears bush (characterized by long, broad, thin ~~leaves~~ drooping ~~droop~~, hence the resemblance to elephant ear) outside the hotel grounds near the road. In addition, I saw a Sceloporus variabilis on the stone boundary fence alongside the road but was unable to collect it.

Continuing S on ~~S~~ Mex Hwy 85 we stopped at two ~~addit~~ additional localities the first a few km. further S to examine a stand of elephant-ear bushes, and the second a spring fed stream further on. No herps were found at either. The second locality ~~the~~ looked particularly promising with many streamside trees with bromeliads,

Hanken, James
1975

Journal

Mexico trip: Cd. Valles → Puerto de la Zorro

6 May

0700 hrs (cont'd) several rocks and fallen logs, and flowing water.

Continuing S we passed thru Tazamanchale and decided to continue on towards the town of Puerto de la Zorro, located a few km. N of Jacala, Hidalgo, to examine some ~~locale~~ cave localities for Chiropterotriton mosaueri, ~~[illegible]~~ given which have previously been taken from this area. The road S of Tazamanchale rises steadily up the Sierra Madre Oriental towards Jacala with steadily decreasing temps (a welcome relief from the conditions in the lowland which were probably the most severe which we've met ~~up~~ with yet — warm temps (94° in the shade at Hotel Covadonga), bright sun, and high humidity). ~~At~~ Just above Puerto de la Zorro the road enters a relatively flat stretch along the crest characterized by extensive limestone outcrops. Many sinkholes are evident, both open + closed. Sam descended ~~[illegible]~~ into one which went down about 20' and stopped. No sals were found. Other were ~~[illegible]~~ deemed too deep and broad to descend into. Today we will ~~[illegible]~~ look for other, more suitable caves,

Hanken, James 1975

Journal

Mexico trip : Puerto de la Zorra → Valles

6 May

1100 hrs. The hot weather continues: tonight at the Hotel Valles in Cd. Valles the outdoor thermometer read 97°F at 9:00 PM.

After breaking camp this AM at our site outside of Puerto de la Zorra we spent approx. 2½ hrs. from ~~[illegible]~~ 900-1130 hrs continuing the search for suitable caves and associated salamanders. Sam Sweet went down two more, one to a depth of ~100' and still ~~had~~ did not reach ~~ed~~ water nor ~~saw~~ see any sign of salamanders. Both caves seemed otherwise suitable for salamanders (Chiroptero-triton mosaueri) and it seems probable that they are now dormant even ~~in these caves~~ with respect to this habitat due to lack of moisture. While Sam ventured into the depths, those remaining above ground (Philip + Allen Greer and myself) busied ourselves with turning cover objects and trying to capture some of the numerous Sceloporus seen about. The area is comprised of pine-oak ~~[illegible]~~ forest with extensive limestone rock outcrops ~~some~~ sometimes reaching over 20' in height. The Sceloporus were abundant on the rocks, basking in the bright sun, but were extremely wary;

Hanken, James 1975

Journal

Mexicotrip: Puerto de la Zorro → Cd. Valles

6 May

1100 hrs (cont'd) running to the nearest crevice at ~~your~~ our slightest approach. Brightly colored blue + green ♂'s, ~~so~~ often over 12" in length were seen, but none collected. I, alone had luck in collecting any, having caught 2 ♀'s, one in a rock outcrop, the other on the trunk of a standing oak. Color descriptions follow:

- ♀#1 - 7.2 cm s-v, 18.5 cm s-t; venter pale; head dark extending back to nuchal ring, edged posteriorly with a white ring; 5 transverse rows of light spots on head, 1-5 spots/row; dorsal scales coppery, anterior edges black; mid-dorsal scales iridescent green, extending onto tail and legs
- ♀#2 - 7.7 cm s-v, 17.4 cm. s-t; head pattern same as #1; dorsum posterior to neck ring a mottling of bronze, black, + tan

From Puerto de la Zorro we headed N on Mex Hwy 85 towards our eventual return to Cd. Valles, ~~San~~ San Luis Potosi and the Hotel Valles. At Cantil de la Gringa, 0.9 mi. S of the Hidalgo-San Luis Potosi border, we found a snake DOR. It was ~ 20" in length and had bright colorful ~~str~~ transverse rings

Hanken, James 1975

Journal

Mexico trip: Puerto de la Zorro → Cd. Valles

6 May

1100 hrs (cont'd) resembling a coral snake (Micrurus). However, it appears as though it may be another specimen of the coral-mimic found earlier on the trip, Lampropeltis triangulum.

N of the town of Tamazunchale we stopped several times to look for Anelytropsis. Orange groves in particular were sought-out because they ~~are~~ ~~some~~ comprise ~~some~~ a good deal of the few habitats which seemingly have a ~~suitable~~ sufficient quantity of leaf litter. However, ~~none~~ no Anelytropsis were found, including a stop at a reported ~~a~~ former locality 14.2 miles N of Tamazunchale (now occupied by orange groves). An additional stop at 0.1 mi. S of El Laurel, San Luis Potosi, on Mex Hwy 85 to investigate a ~~lk~~ large stand of tropical deciduous forest with abundant, thick leaf litter and fallen, even ~~so~~ somewhat moist logs beside a small stream failed to produce any Anelytropsis, although Sam did collect two Anolis sp.

Tonight at the Hotel Valles Sam collected 15 more Gehyra mutilatus from walls + ~~ce~~ ceilings of the hotel building, making this the best locality for the trip this far.

Hanken, James 1975

Journal

Mexico trip: Cd. Valles → fire station W of El Naranjo

8 May

0800 hrs — Left Cd. Valles yesterday AM intent on finding Anelytropsis. Drove N on Mex Hwy 85 to a locality 21.2 mi. S of the Tamaulipas - San Luis Potosi boundary. This was a ~~sa~~ narrow wash which passed below the road, ~~the~~ with no flowing water in the wash but a few small bodies of standing water. The area is basically thorn-scrub forest, but is highly disturbed by agriculture and there are only patches of the forest bordering the wash. No Anelytropsis was found by raking thru the ~~abo~~ abundant leaf litter below the trees present. However, Sam Sweet collected two Pleurodelyxus ____________ on the ~~sa~~ same exposed plant adjacent to one of the small pools: one individual on the surface of a leaf in full sunlight, the other the leaf axil. He and I each collected one Sceloporus variabilis, mine taken from beneath a bush bordering the wash. An Ameiva was also seen on the trestle's foundation, but was not taken.

We then drove N and took Mex Hwy 80 W towards the Sierras. Taking the turnoff to El Salto we drove on to the waterfall a few miles beyond the town. There is an

Hanken, James 1975

Journal

Mexico trip : Cd. Valles → fire station W of El Naranjo

8 May

0800 hrs (cont'd) electrical plant at the falls, and the water is also piped out of the area from here. The falls were not "falling" but there were several large pools of water below the falls. I do not know if the falls are active in the wet season or if all the water is diverted. ~~Surrounding the falls area is a lush forest~~ ~~albeit dry~~. In the area of the falls where there isn't human development is a lush forest, albeit dry, of tall forest trees in leaf with a dense understory. ~~Leaf~~ litter is extensive, often reaching several inches ~~...~~ in depth. The forest was ~~...~~ worked for several hours by raking the litter, turning logs, etc. but no Anelytropsis was found. The Falls, incidentally ~~is~~ is an Anelytropsis locality as reported by Dixon. Sam Sweet collected ~~...~~ several tadpoles (Rana) in the adjacent backwater of the main river channel.

From El Salto we continued W to 2 mi. W of El Naranjo, another Anelytropsis locality. At present this is a several-times-burned-over thorn forest, dominated at present by palms, ~~several~~ both tall, mature trees, and smaller, younger plants. ~~The~~ The

Hawken, James 1975

Journal

Mexico trip: Cd. Valles, fire station W El Naranjo

8 May

0800 hrs (cont'd) ground is also very rocky with abundant leaf litter. No Anelytropsis was found during the ~45 minutes of ~~our~~ searching.

Leaving this locality we continued W towards our campsite ~~at the~~ by the fire station at the Sierran crest W of El Naranjo.

9 May

1200 hrs Had our best day of collecting yesterday (8 May). ~~the~~ Some light rain fell the evening before at our campsite 2.0 mi. E of Agua Zarca on the crest of the Sierras and there were signs of rain, having fallen lightly in the lowlands, although nothing extensive.

Before leaving our campsite (adjacent to a fire ~~tower~~ lookout tower overlooking the area) we worked for ~1 hr. ~~among~~ looking for herps. There ~~are~~ were extensive limestone rock outcrops variously vegetated by a pine-oak forest. Allen Green accounted for two Sceloporus variabilis and Sam Sweet for another form, while I got a different species, larger with ~~a~~ relatively large scales, possibly another S. torquata (JH 112). ~~It~~ It was found inside a limestone crevice. This represented the first instance of ~~2 spp~~ >1 sp. of Sceloporus in sympatry yet encountered on the

Hanken, James 1975

Journal

Mexico trip

8 May

1200 hrs (cont'd) trip.

Continuing W on Hwy 80 we stopped at 6.7 mi. E of Ciudad Del Maiz, after Sam spotted a *Sceloporus* basking on a rock alongside the road. This turned out to be the best locality yet encountered. The area comprises a slightly rolling former lava field overlooking the Central Plateau to the W. There are several low (1-2' high) outcrops of lava rocks ~~occurring~~ alongside the road. Much of the area is used for agriculture and here the cleared rocks have been arranged in fence rows 2-5' high. The lower-lying uncleared areas have scattered ~~yucca~~ lo short yuccas and low bushes. In addition there is an oak-dominated forest (at least 3 sp.) of tall scattered oaks and little understory cover. In all, ~~4~~ four species of *Sceloporus*, one sp. of *Cnemidophorus*, and one sp. of *Scincella* were found. The *Cnemidophorus* (2 by Sam, 1 by Allen) were found in the low yucca + shrub area. Philyp Green found the *Scincella* in the leaf litter beneath a fallen log adjacent to the oak woodland. The *Sceloporus* may be broken down into ~~two~~ two types, large + small, with two species in each type. The smaller species consisted of *S. variabilis* found mostly on trees + boulders in the oak forest

Hanken, James 1975

Journal

Mexico trip

8 May

1200 hrs (cont'd) and an as-of-now unidentified species of similar proportions with scale ~~???~~ keels arranged in rows, a yellowish wash to the venter (both sexes) and a black axillary spot (♂'s only). The two individuals (both caught by Sam S.) were found in the open area adjacent to boulders or at the edge of the oak forest. The larger-species group was comprised of a large jarrovi-type lizard with a dark nuchal ring bordered posteriorly with white. ♂'s had a bright-blue throat patch and ~~ventral~~ belly patches with a green dorsum. This ~~spe~~ species was found predominately on exposed boulders and rock outcrops and fence rows. The second large species ~~had~~ ~~wa~~ had large, mucronate dorsal scales. They were shorter + stockier than the previous species. General coloration was grayish with 2 light dorso-lateral stripes. The venter was light with 4 or 5 broad dark longitudinal throat stripes and some dark flecking posteriorly. ~~?~~ ♂'s had ~~a~~ greenish ~~belly~~ patches on the belly and either side of the throat. This species was found both on trees and exposed boulders. Approximately 2½ hrs were spent at this locality.

Continuing on ~~???~~ Mex Hwy 80 we

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Mexico trip

8 May

1200 hrs (cont'd) stopped at a dry river wash a few km. W of Ciudad del Maiz to look for Anelytropsis. Leaf litter was present under the broad acacia trees, but no success was found looking here nor by tearing up dead yuccas, etc.

Continuing W on Mex Hwy 80 we descended onto the plateau itself, which in this area is ~~a~~ very arid, vegetated by ~~increasingly~~ more typical desert vegetation of palms, yuccas, and (beginning at the last of three localities visited) creosote bush. Three localities were visited in this area: 0.4 mi E. of La Morena, 4.3 mi. E San Rafael, and the jct. of Mex Hwy's 80+101. The first two localities were picked because of the abundance of fallen palm or yucca logs along or near the road, the last locality because of an Anelytropsis recorded from here by Minton. The first locality was worked by turning + breaking open dead logs + yucca bases and raking through the earth below, and produced one Hypsiglena torquata (both found by Steve S.) and one Sceloporus similar in appearance to the large tree + rock dwelling inhabitant of the earlier Ciudad del Maiz locality. The second locality (worked in a similar fashion) produced another Hypsiglena (Sam Sweet) and another Sceloporus as before (JH). The last of

Hanken, James 1975

Journal

Mexico trip

9 May

the three localities produced ~~an~~ an additional Hypsiglena (Allen Greer), one more Sceloporus (SSSweet), one Masticophis taeniatus (SSSweet), and a four Cnemidophorus (3 - SSSweet, 1 - JH). The latter species had the orange throat and blue belly as does C. gularis, but should be ID'd for a possibly different species. No Anelytropsis were taken.

Heading NE on Mex Hwy 101 we stopped to ~~to~~ work a couple of washes W of the Sierras which had the same small tree in flower under which Anelytropsis had been found earlier on in the trip. Raking ~~on~~ the litter in a similar fashion as before produced no additional records, however. We then continued on to Ciudad Victoria on the E side of the Sierras where we spent the night.

9 May

Spent the first half of the day driving N on Mex Hwy 101 and then W from Linares to investigate a couple of salamander localities near Galeana, Nueva Leon. Chiropterotriton ________ has been recorded from Cerro Potosi, 11.2 mi. NW of Galeana and we attempted to reach the locality by taking a dirt road N off out of Galeana. After consulting topo maps of the area we saw that the road would not lead us to the mountain and that it only

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James
1975

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Mexico trip

9 May

lead thru the arid desert which would probably not lead us to salamanders. Returning to Galeana we took the road from there S towards the type locality for *Pseudoeurycea galeanae* at . We stopped at where a steep wash crosses below the road, as it looked like the most mesic, shaded area in the vicinity. The slopes were covered with scattered pines, yucca, and manzanita and were essentially absolutely dry. No salamanders were found during the few hours of looking. However, the wash itself was characterized by steep ~~the~~ walls of ~~gyp gy~~ gypsum arranged in loose layers ~~with many crevices~~ with many crevices and easily separated. Here were found abundant numbers of a beautiful *Sceloporus* species, possibly *jarrovi*, possibly similar to the colorful large species at the Ciudad del Maiz locality. ♂'s were bright green above (especially head and tail) sometimes coppery on the ~~mid dors~~ back, with a dark, light-edged nuchal collar and bright ~~bl~~ blue throat and belly patch. ♀'s were more grayish with a collar. Individuals were found active exposed on the gypsum walls despite the overcast skies, and were either shot off or

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Mexico trip

9 May

extracted from crevices to which they would retreat at our approach. They were so abundant that often just picking and pulling away any piece of gypsum would uncover lizards. I collected four animals (one from beneath a pine log in the forest), Sam Sweet collected at least six. Allen + Phyllis Greer, meanwhile, working the surrounding forest, found a Crotalus pricei (~18" long) and two other lizards, possibly Urosaurus.

We spent the night at this locality.

The weather has been getting increasingly overcast; the rainy season appears to be finally beginning. ~~Eve~~ In conversations with the manager of a hotel in Linares earlier today (a former American) we learned that, indeed, the weather of late has been unseasonably hot and dry. The rainy season would have been expected to be already in progress in the ~~No~~ North (e.g. Nuevo Leon) and soon to begin in the South. The present drought has ~~been~~ in now lasted over nine months and several well-populated areas have only a few days drinking water left. Possibly this explains the apparent dearth of herp. numbers.

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Journal

Mexico trip

10 May

Arose at ~ 0630 hrs. and left soon after. Continuing W on rte 60. we headed N on Mex 57 at San Roberto and continued on this road to our border crossing at Piedras Negras at ~ 3PM. Drove essentially straight thru stopping only for gas, etc, and to pick up a DOR Rhinocheilus lecontei (555 #) along Mex Hwy 57, 0.8 mi. S Acatita access road, Coahuila. The border crossing was of little trouble: the officials cared less about permits for our specimens than about the possibility of our having marijuana. From Eagle Pass, Texas we headed N on US Hwy 277 to Del Rio and then switched to Texas Hwy 90 N. One Phrynosoma cornutum (JH #125) was found active along the highway just N of Eagle Pass at the jct of Texas farm road 1588 + US 277. We drove the road N of Del Rio just after sunset and had an opportunity to do some night driving. Rains had finally fallen the previous night: no rain fell exactly in Del Rio, but points 125 mi. N had 5" the previous night. Standing water was evident alongside the road, and we were later to find small pools near the road with calling frogs. Between ~~~~~ points

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Mexico trip

10 May

~5 mi. S of Dryden, and 12 mi. S of Sanderson, Val Verde Co (~21 mi. stretch) several juvenile Scaphiopus couchi and one Bufo cognatus were found hopping on the road surface. A light to heavy rain either was falling or had just fallen. One Bufo speciosus was later found 6.8 mi. S of the jct with hwy 385 in Marathon, and a DOR Thamnophis marcianus 18.3 mi. S of this junction. We continued N to Alpine where we spent the night.

11 May

Arose at ~7 AM and, after breakfast, continued N on Texas hwy 90 to Int. 10 at Van Horn. Continuing W on I-10 we drove essentially straight thru to Casa Grande, ~~above~~ Pinal Co, Arizona, where, after dinner, we collected two Sceloporus magister from along the roadside ~.5 km. S of town along ~~the~~ ~~to~~ connecting road back to the highway. Returning ~~to~~ to I-10 we continued W to Gila Bend, Maricopa Co, where we left the highway to do some night driving along the old ~~road~~ Hwy 80 N of Gila Bend towards Arlington, Wintersburg, Tonopah, and Harquahala Valley. This turned out to be our most successful collecting

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Mexico trip

10 May

session in terms of species diversity. Between Gila Bend and Hassayampa to the N were found Pituophis melanoleucus (1), Bufo cognatus (4), Crotalus scutulatus (1), Leptotyphlops humilis (1), Coleonyx variegatus (2), and Arizona elegans. ~~One Lampropeltis getulus was found 1.7 mi. E of the junction ~1 mi. E of Tonopah. The Harquahala Valley Rd. SW of Tonopah produced one Crotalus cerastes.~~ W of Hwy 85 in the vicinity of Tonopah we drove many of the roads crisscrossing the agricultural area and turned up one Crotalus cerastes, one Lampropeltis getulus, one Phrynosoma solare, two C. scutulatus, and several Bufo cognatus found calling from a flooded rice field along the road.

We returned to I-10 and continued W towards a rest area just E of the Calif. border at Blythe where we spent the night.

11 May

Arose at ~7AM and continued on to Blythe, Calif for breakfast and then drove on, essentially straight thru to Berkeley over the same route taken at the trip's beginning, arriving at the MVZ at ~7:30 PM

Costa Rica

7 - 28 July 1975

Panama

8 - 20 August 1975

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1975

Journal

Tortuguero Chelonia tissue samples for Bill Rainey
Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

7 July

A. Population egg white sample -
2 ~100 ml plastic bottles containing egg white from 7 eggs of one clutch, collected the night of 7 July and preserved the same evening

B. Individual egg white samples and datalning attempt
#1 - ID# 201A (1 vial) - collected 7 July PM and preserved same night (same turtle as A)
~~#01 - ID# 202A~~
#2 - ID# 202A (2 vials) } collected night of 8 July, preserved next AM
#3 - ID# 203A (2 vials)
#4 - ID# 204A "
#5 - ID# 205A "
#6 - ID# 206A "
#7 - ID# 207A "
#8 - ID# 208A "
#9 - ID# 209A "
~~#10-38 - ID# 210A - 238A~~
#10-25 - ID# 210A - 225A (2 vials each) - night of July 9
#26-38 - ID# 226A - 238A (2 vials ea.) - night of July 10
#39 - ID# 239A (one vial) - " " July 10

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Journal

Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

9 July Left NYC by plane 1 July and arrived San José via Miami and Grand Cayman Is. that night. Stayed overnight in ~~SJ~~ at the Tala Inn where I hooked up with Chuck Carr and Kathy Landauer who had come up from Tortuguero to renew visas. We remained in San José until ~~3~~ 4 July buying supplies (I also obtained a collection permit from the Ministeria de Agricultura y Ganaderia). We flew to Limon the ~~next~~ morning of 4 July, and took a boat up to Tortuguero the following morning (5 July). The beginning of the regular turtle tagging program still awaits the arrival of Steven Carr from Florida who is bringing more gear and another tagger. This week I've been busy with maintenance work around the camp & station, getting things in working order. Also, with the help of Beto Martinez and Alonso Rankin I've been collecting egg samples for Bill Raney (see add'l sheet). Hopefully we can finish this week before the tagging begins. The only ~~dif~~ potentially difficult task will be obtaining the samples of blood serum. The villagers are ~~still~~ taking ~3 turtles/week but it ~~is~~ is next to impossible to find out, in

Hanken, James

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1975

Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

9 July advance who will be taking a turtle so that I can be there to get blood. In the next installment I'll comment on changes in the area since last year. ~~Bea~~ Beach surveys ~~...~~ from last week indicate that the turtles are already coming up, and in greater numbers than last year.

12 July Chuck Carr arrived back from San José yesterday ~~a~~ evening with Steven Carr and Anne Weyan ~~...~~ who complete the tagging crew. Earlier that afternoon Kathy Landauer and myself had gone ~~to~~ across the river to Cerro Tortuguero. ~~...~~ We spent most of our time along the trail to the top of the mountain, but never went farther than a third of the way up. Kathy spent most of the time looking for insects while I looked for frogs. We have had very little rain, if any, the last few days, and while the ground in the shaded forest was moist, it wasn't "saturated" as may be found ~~...~~ when it has been raining more frequently, nor was there any water collected on leaf surfaces or in small depressions. Less than ten frogs were seen, and

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Tortuguero *Chelonia* tissue samples for Bill Rainey
Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

12 July B. Individual egg white samples and hatching attempt

#40-41 - ID #240A-241A (2 vials ea.) - collected night of July 11

#41-46 - ID #241A-246A - deposited night of 11 July, dug up 12 July

#47-50 - ID #247A-250A - collected night of 12 July prepared AM 14 July

C. Blood sample

#201A - ~40 cc serum mixed 1:1 with preservative

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Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

12 July I collected three, all apparently of *Eleutherodactylus* (see color notes 20 July). Two or three small, dark, skink-like lizards were seen but eluded capture. ~~And the skin etc.~~ No other herps were seen. Returning to the river we came across a group of several howler monkeys apparently settling into a single trees for the night. This was at approximately the same place as a similar group was seen last year; possibly it's the same group.

Heavy rains and thunderstorms began last night and have continued throughout ~~until~~ ~~till~~ until the present time (~10AM) and show no signs of letting-up in the ~~near~~ near future

15 July Left Tortuguero on 13 July AM for Limon via cayuca carrying many of the village children to school in Limon. Steve Carr and I went in to pick up gasoline and other supplies. ~~when~~ We returned last night at ~ 8:30.

*On the evening of 12 July between ~ 7:30-8:30 PM, Steven Carr, Anne Meylan, and myself visited the swampy area ~ 50 yds S of the GTS. Much rain had fallen that day after several

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Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

15 July days of almost no rain and there was much calling activity by ~~the~~ frogs. The actual area with stationary water is ~~~~ ~50 yds long × 100' wide, bordered on the N by the cleared grassy area of the GTS, on ~~the~~ the S by a coconut ~~palm~~ grove, the E by cocoa plum bushes, and the W by low bushes. The pond itself is vegetated by mostly low bushes, though some reach up to ~8' in height. It is a temporary pond. ~~Four~~ Four different species of frog were found. Two *Agalychnis callidryas* were found in amplexus ~8' high on a coconut palm trunk at the ~~eg~~ edge of the pond. The male was markedly smaller in size but with similar coloration. They remained in amplexus after being collected, and deposited eggs ~~each~~ that night and the next, ~50 in all. The eggs were laid in clusters attached to the underside of the plastic bag holding the frogs. Each egg appeared as a yellow sphere surrounded by a clear gelatinous envelope. ~~The~~ No calls were heard given by these frogs. The three remaining species were all *Hyla*. One (JH 150) measured ~2 cm S-V, with a brownish-green ~~g~~ dorsum with dark, irregular, broken longitudinal

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Green Turtle Station, ±sea level, Tortuguero, Limon Province, Costa Rica

15 July bands dorsally and transverse bands on the limbs. A dark stripe passed from the tip of the snout through the eye to a point mid-way to the vent. The venter was yellowish, ~~stgd~~ slightly redder on the throat. Steve Carr found this frog ~5' high on a tree trunk at the edge of the pond. No calls were heard. The next species (JH #149) was found uttering a low-pitched stuttering call lasting ~~< 1~~ less than 1 second from ~~the~~ water level ~~in~~ among scattered bushes. It measures ~4 cm S-V, with a tan dorsum with two irregular broken, dark bands ~~dorsa~~, and transverse bands on the limbs. The white venter ~~tex~~ had a reticulate pattern of the skin, appearing almost granular. The last species (JH 147-8) was found calling from a height of ~4' ~~from the bush~~ in bushes over the water. The call was a high-pitched slow trill lasting ~~only a fraction~~ ~1 second. Both individuals caught were ~2 cm S-V with pale dorsum + ~~venter~~ yellowish-orange venter. ~~In addition~~ Another call, a high pitched chink, was heard ~~fr~~ from high in the coconut palms, but no individuals were seen. This is the commonest call ~~a~~ heard at the GTS. In addition, one Iguana iguana, ~13 cm S-V was found resting in a bush above water.

Hanken, James 1975

Journal

Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

18 July The last few days have ~~comprised~~ been spent in usual tagger fashion: turtle morning and night and eat + sleep the rest of the time. ~~We have managed to do a~~ Anne Meylan, Steve Carr, and myself took a boat excursion up Benjamin Creek between 4:30-6:00 PM on 15 July. A three-toed sloth was seen high in a tree along Rio Tortuguero N of Benjamin Creek, and several bitterns were seen along Benjamin Creek. They were not absolutely identified: they appeared to have the bare throat of the tiger bittern, Tigrisoma mexicanum, but this species is recorded as rare along the Caribbean by Slud. Several great tinamou were heard calling at dusk, as were several pairs of dueting wrens. The afternoon of 16 July the three of us visited the site along Rio Penitencia ~8-9 mi. by ~~boat~~ river N of Tortuguero which last year had a boat-billed heron rookery. Sharon Bennet had reported going there earlier this year and finding no birds. However, we found the rookery as active as this time last year, with at least twenty adult birds and several nests with eggs visible. Apparently, the ~~[illegible]~~ summer breeding season

Hanken, James 1975

Journal

Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

18 July Began just recently, ~~with~~ again as last year, a pair of ~~agami~~ chestnut-bellied herons, Agamia agami, were seen in the ~~[illegible]~~ main rookery tree, ~~[illegible]~~ but we were not able to see if they had a nest. This struck me as quite remarkable, as a visit to this same spot last year resulted in seeing several ~~[illegible]~~ boat-billed's resting, with a pair of Agamia also present. Returning from the rookery we found a small (~2' total) crocodile basking on a log in the river before turning up Caño Palmas. This river is still very beautiful, but has small cleared areas along the stream indicating recent ~~logg~~ logging. If any ~~area~~ location in this region should be protected it should be this stream with its narrow winding path through virgin forest with trees overhanging the stream and abundant wildlife. Steve Carr found a large, green, tree snake (possibly Leptophis sp.) ~4' long ~~[illegible]~~ among a cluster of branches jutting out into the stream, but we were unable to secure it despite Steve's tossing it into our boat. Also, we found a pair of jacana's with a river's

Hawken, James 1975

Journal

Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

18 July edge nest consisting ~~only~~ of only a few flat leaves ~~b~~ arranged in a small pile on top of a low bush, the nest at ~ 3' above the water level. We didn't have time to go anywhere yesterday afternoon as we had to fish for food, but I did find a small snake ~~s~~ moving along the path by the river boat landing in Tortuguero at ~ 7 AM. (see color notes below). The weather has been mostly sunny + warm with little rain for the last few days until last night when heavy rains began which have continued off + on ever since until the present (~8:30 PM).

20 July Color notes for frogs of 1? July:

JH #142 - dorsum tan with thin longitudinal median stripe; dark mask beginning at tip of snout passing through and below eye, and narrowing to a lateral stripe to groin; belly and throat pale, but ventral and lateral surfaces of hind limbs salmon pink, ~~also~~ as are palmar surfaces and axilla

JH #143 - dorsum dark brown with scattered dark flecks, legs lighter with dark bands; salmon pink coloration on front of thigh and calf

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Journal

Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

20 July Color notes (cont'd):

JH 144 - dorsum with more or less alternating irregular longitudinal stripes of tan and brown, more mottled on limbs; ~~color~~ coloration as in #143, with both having light flecking on the throat

23 July Various odds & ends have been accumulated in the last few days. A *Bufo marinus* (JH 161) was found by the main building of GTS in the afternoon. It was exhibiting muscular spasms of the legs and the mouth was agape ~~& limbs~~. The only explanation we could think of was that it has been affected by the DDT sprayed in all the buildings twice a year; two similar frogs were found last summer after spraying. ~~Then~~ In the early evening of 21 July Kathy Landauer collected a large adult ♂ *Basiliscus vittatus* ~~(JH)~~ ~~from~~ while it rested motionlessly on a tree branch next to the main building. Yesterday afternoon from 4-5:30 PM Steven Carr, Anne Meylan, ~~and~~ Kathy, & myself climbed Cerro Tortuguero. Two apparent *Eleutherodactylus* (JH 164-5) were taken on the trail. Several others were seen but we didn't stop for them as we were in a

Hauken, James

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Journal

Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

23 July hurry to reach the top. The frogs were noticeably less common during our descent, as they were found to be last week at a similar time (late afternoon). One Ameiva festiva and one small skink were taken at the base of the mountain. The latter lizard (# 166) measured 2½ cm S-V, 4 cm Total length, ~~and~~ it had a dark brown dorsum, and a dark lateral stripe beginning behind the eye, broadening at the shoulder, and tapering to a point at the base of the tail. The venter was pale except for a slight reddish tinge in the groin. Today, while moving a small boat off the ground in the ~~[illegible]~~ boat bodega two geckos (# 167-8) were found under the boat on the ground. ~~These~~ This is the first time I have seen ~~this~~ species at Tortuguero. Time was ~11 AM.

The weather continues to be unusually mild with bright sunny skies, ~~and~~ warm temperatures, and essentially no rain for the last few days. This is to be compared with the great amount of rain and harsh weather of last year at this time.

Turtling has ~~been~~ found ~2x as many turtles this year than last at this same time. However, there is much more turtle+egg poaching on the

Hauken, James 1975

Journal

Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

23 July beach this year. The village is formally allowed three turtles/week, but both people from Tortuguero and neighboring villages not on the coast (e.g. on the nearby Rio Suerte) are taking additional turtles. Also great numbers of nests are being destroyed or robbed either by people or the great numbers of dogs in the village. This is of such magnitude that it seems ~~reasonable~~ plausible that little, if any, of the nests below mile 5 are ~~see~~ left undisturbed until hatching. However, today we received word that six guards will be arriving Saturday to patrol the beach; hopefully, they will do something positive.

As we have next to no money to buy food we have been left to our own devices to secure food. Today we went fishing at the Boque and I actually caught two fish, one jack and one snook.

28 July For the most part the good weather has continued up to the present. There have been some overcast skies and showers in the last couple days, but this ~~condi~~ continues to be a very dry rainy season. After waiting for many days

Hanken, James 1975

Journal

Costa Rica - Green Turtle Station

Green Turtle Station, sea level, Tortuguero, Limon Province, Costa Rica

28 July for a sizable shower, Stephen Carr and I went over to the forest behind the fishing camp across the river to look for frogs. Two *Leptodactylus pentadactylus* were found in front of the fishing camp, ~~and~~ one *Dendrobates pumilio* was found ~4' up on a stump in the forest, ~~but no other frogs were found~~, and *Rana* were found commonly at the river edge by the GTS, the fishing camp and along the Laguna Penitencia. One of the latter was collected (JH171) and the heart and some blood preserved for Sue Case. However, no breeding choruses were heard and the ~~two areas~~ low-lying areas which were found extensively flooded last week ~~as~~ after a hard rain were only slightly flooded. No breeding choruses were heard either at the "swimming pool" at the fish camp or at the rain ~~sig~~ sink S of the GTS (although a small (~2' 5-t) *Caiman crocodylus* was found ~~at~~ at the former). Evidently there have been only a few nights this month when the conditions have been condusive to frog breeding choruses.

Two more snakes were brought to my attention on 24 July. Chuck Carr found a "blood snake", (JH169) so-called because of the

Hauken, James 1975

Journal

Costa Rica - Green Turtle Station

Green Turtle ~~of~~ Station, sea level, Tortuguero, Limon Province, Costa Rica

28 July reddish-colored dorsum, dead in the GTS front yard at around noon. It's head appeared crushed; possibly it had been killed by our resident horse. Earlier in the day Chuck ~~to~~ found a snake (JH 170) wedged in between some boards of the pumphouse shed ~5' above the ground. It was a delicate snake ~~about~~ ~3' in total length with an extremely elongate, slender body. Possibly Imantodes cenchoa.

Tomorrow I leave Tortuguero via the ~~itinerary~~ itinerary flight to Limon, and then on to San José and Panama to meet Lynch as planned on August 5.

Motel Su-Lin, ~740 m, Cerro Campana, ~~Panamaña~~ Panama Province, Panama

8 August Arrived here last night at ~5 P.M. with Jim Lynch ~~after several days in town~~. Left Tortuguero on 29 July for San José (via Limon) where spent two days securing export permits, plane reservations, etc. On Aug 1 flew to Panama City where I was to meet Jim Lynch in AM of 5 Aug. Was unable to secure collecting or exportation permits at that time as the ~~head office~~ main office of the ~~of~~ Ministry of Agriculture is in Santiago, ~half-way between

Hanken, James
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Journal

Panama - Cerro Campana

Motel Su-Lim, ~740 m. elev, Cerro Campana, Panama Province, Panama

8 August Panama City and David, Chiriqui Province. The first few days in Panama City were spent, among other things, with getting jumped by four Panamanians along the Avenida de los Martires just across the street from the Canal Zone. Luckily, they were only able to take my wristwatch and didn't get any money, travelers checks, credit card, plane tickets, or passport (all of which I was carrying at the time). Jim Lynch was not on the originally scheduled flight on 5 August as he had had loused-up connections from St. Vincent, and the next two days were spent in Panama City trying to locate any messages from him or knowledge of his whereabouts (including visits to the Smithsonian Tropical Research Institute and calls to Berkeley). He finally arrived yesterday morning, and shortly thereafter we decided to skip our planned visit to Barro Colorado Island and head directly to western Panama (as he has only ~7 days left for his visit). In Panama City we rented a car, bought supplies, checked in at STRI in the Canal Zone, and drove in the afternoon to Cerro Campana. After leaving the Canal Zone, which

Hanker, James
1975

Journal

Panama - Cerro Campana

Motel Su-Lim, 740 m. elev, Cerro Campana, Panama Province, Panama

8 August has some ~~on stands~~ nice stands of virgin forest and other tracts of ~~of~~ second growth which has been left alone for at least 75 years, the Pan-American highway traverses populated lowlands ~~cleared for ag~~ covered by agricultural tracts, second growth, and thickets, with almost no original forest. ~~[illegible]~~ Useful descriptive notes are in ~~a~~ a pamphlet called "Finding Birds in Panama" by Ernest Edwards and Horace Loftin, sponsored by the Panama Audubon Society, c. 1971, which also has excellent detailed accounts of various side roads leading into the more remote areas. Most of Cerro Campana has been cleared for cattle grazing, lumber, or agriculture, and the only stands of mature forest lie in the steepest canyons, cliffs, or other inaccessible areas. We examined forested areas along the road above the Motel Su-Lim ~~[illegible]~~ including the vicinity of ~~the~~ a large water tank along a small brook which crosses the road (840 m.) but no salamanders were found. I saw one brownish frog ~ 4 cm ~~[illegible]~~ SUL ~~at the above~~ but couldn't capture it at the above locality in addition to several tadpoles in the small

Hanken, James
1975

Journal

Panama - Cerro Campana

Motel Su-Lin, 740 m elev, Cerro Campana, Panama Province, Panama

8 August stream, and Jim Lynch discovered an anguid lizard under an exposed rock in a small clearing but ~~could~~ could only collect the tail. Returning to the main highway we stopped at an abandoned house on ~6 mi. (upward) from the main highway) (~800 m) and I found one small Eleutherodactylus under a small rock inside the building.

Birds seen ~~the~~ in the Cerro Campana area included blue honeycreeper, modest wren, olive grassquit, white-bellied hummingbird, yellow-faced grassquit, white-throated robin, white-fronted dove, & blue & white swallow.

* One Oedipina was found at the Motel Su-Lin in the form of a dead and dehydrated specimen which was found on the concrete walkway a few feet from the swimming pool at the motel. The sal was discovered upon our arrival at 5 PM on 7 August and was collected by Jim Lynch. No other sals were found under nearby rocks and logs

Hauken, James 1975

Journal

Panama - Boquete area

Hotel Fundadores, 1100m. elev, Boquete, Chiriqui Province, Panama

9 August 7:00 AM Arrived here last night with Jim Lynch after driving essentially straight from Cerro Campana ~~with~~ including a stop at the Agriculture Ministry in Santiago to try to procure proper exportation permits (the officials seemed helpful and instructed us to pick them up in a week). The ~~[illegible]~~ highway ~~traversed~~ we traveled yesterday traversed mostly lowlands which have been essentially cleared ~~for~~ or disturbed for agriculture, habitation, and/or lumber; essentially none of the original forest remains except in isolated clumps in deep drainages or ~~slopes above fields cleared~~ on a few upper mountain slopes above lower cleared areas.

10 August 7:00 AM Jim Lynch and I left yesterday morning at ~~[illegible]~~ ~8:45 AM to work the southern flank of Volcan de Chiriqui W of Boquete. ~~Using~~ We used U.S. Army Map Service maps Sheet 3742 III, series E762, ~~and~~ labeled Boquete, and Sheet 3642 II, series E762, labeled El Hato Del Volcán; the former map field checked in 1960, the latter in 1965. Driving N on the main road through Boquete we turned left (West) just after passing the ~~church~~ town church and continued on this road towards and past the

Hanken, James
1975

Journal

Panama - Boquete area

Hotel Fundadores, ~1100 meter, Boquete, Chiriqui Province, Panama

10 August small village of El Salto. The army maps proved to be outdated in that ~~a~~ ~~foot~~ indicated foot path branching off of this road less than a km. from El Salto (and leading onward to ~~the~~ the Volcano) had been widened to ~~an~~ ~~a~~ automobile sized road and we drove onward along this road. About 1 or 2 km past this point the road proved too rough for our VW beetle but still could have easily been negotiated with a four-wheel drive vehicle with high clearance (~~the~~ there had been no pavement since leaving Boquete, the road getting increasingly rockier as one progressed). We continued along this road by foot from this point (elev. 1775 m) and stayed along it for the rest of the day. The army map indicates the road as a cart track continuing W from Boquete climbing the S flank of Volcan de Chiriqui until an approximate elevation of 2700 m. where it ends. However, I continued on to an elevation of 2740 m and Jim Lynch slightly less than this, and the road was still suitable ~~for~~ for easy 4-wheel drive travel, having been evidently widened and maintained by bulldozers, etc., and showed no signs of stopping anywhere near that point. ~~the~~ ~~terms~~

Hanken, James

1975

Journal

Panama - Boquete area

Hotel Fundadores, ~1100 m. elev, Boquete, Chiriqui Province, Panama

10 August In terms of vegetation, the original forest is almost entirely absent from the lower slopes along the road where there is extensive agricultural development for the growing of coffee, potatoes, corn and other crops. The only original forest remains in isolated clumps along the rivers ~~[illegible]~~ W of Boquete, and on the steeper slopes. At ~~around~~ above 2200 m the original forest seems intact ~~and the road seems only~~ ~~to~~ the only cutting ~~off~~ being apparently for road-making purposes. Away from the road the original forest comes in at lower elevations, however ~~these~~ ~~[illegible]~~ the slopes are very steep and are dissected by deep ravines; access would be difficult.

Except for turning rocks and logs along the disturbed area at roadside, there proved to be few areas ~~allowing~~ which we were able to examine for salamanders. The lower slopes and level areas were mostly used for agriculture and few trees remained. As already mentioned the forested areas were steep with deep ravines, and thickly forested; whenever these areas were entered and cover objects turned no sals were found. The first sals were encountered ~~at~~ in a secondary growth oak forest where

Hanken, James 1975

Journal

Panama - Boquete area

Hotel Fundadores ~1100 m elev., Boquete, Chiriqui Province, Panama

10 August the scattered oaks provided a good canopy over abundant fallen and cut logs. The elevation was ~2200 m along the El Salto trail ~~...~~ directly above a finca with sheep, rabbits, + geese. Working this area for ~1½ hrs between 11:30 - 1:00 ~~...~~ we uncovered 10 salamanders all under logs or inside rotting stumps. Large individuals reached up to 10 cm SVL and were entirely black ~~with~~ while smaller individuals SVL 4-5 cm were black with fine white speckling all over and some faint ~~...~~ silver blotches on the tail. Feet were moderately webbed. This is apparently a new species. An additional specimen was found by me later in the day on our return at ~ 5 PM under a log. The only other individual of this species found was by Jim Lynch under a small rock alongside the road where it passes through an area of secondary growth at 2245 m. The only other sals found were three other individuals of a different species found under logs ~~along~~ at roadside at 2660 m. This area was at a relatively level section through original forest. Two of the sals were found adjacent to a small level clearing made by a bulldozer where a

Hanken, James
1975

Journal

Panama - Boquete area

Hotel Fundadores, ~1100 m. elev., ~~Pa~~ Boquete, Chiriqui Province, Panama

10 August small log cabin ~~was~~ under construction. Other logs were turned in the area ~~too~~ but no sals found. All of the sals were ~2½-3 cm SVL; ~~[illegible]~~ one had a well-developed mental gland. Dorsal and ventral coloration was ~~[illegible]~~ dark brown with fine light speckling laterally, and ~~and~~ a ~~[illegible]~~ tan triangular mark between the eyes with the apex pointing towards the snout. A few lizards were collected today. Sceloporus malachiticus was found common during the sunny morning among the exposed rocks and crevices along road cuts at many points along the trail. Five ~~[illegible]~~ individuals were taken between 2100-2150 m (adults and juveniles), and 2 (one ♀, one ♂) at 2215 m. One Bolitoglossa monticola was collected by Jim Lynch ~~[illegible]~~ at 2160 m ~~[illegible]~~ as it was found moving aboveground along the road edge where the road passed thru a chapparal-covered slope (paramo), seemingly original. We were fortunate in having good weather most of the day, with warm + clear skies in the morning, clouding over later in the day with ~~[illegible]~~ a small amount of rain on + off in the afternoon. Thick fog and mist was seen to alternately enclose and retreat from various

Hanken, James 1975

Journal

Panama - Boquete area

Hotel Fundadores, ~1100 m elev, Boquete, Chiriqui Province, Panama

10 August points along the road all day, as well as upper elevations of the volcano to the west

Birds seen today included:

andean sparrow - Zonotrichia capensis
collared redstart - Myioborus torquatus
flame-throated warbler - Vermivora gutturalis
sooty robin - Turdus nigrescens
golden-crowned warbler
slaty diglossa - Diglossa baritula
big-footed sparrow - Pezopetes capitalis
lesser goldfinch
band-tailed pigeon
acorn woodpecker
rough-winged swallow
red-tailed hawk
turkey vulture

4:00 PM Three Anolis sp. were also collected under fallen logs at yesterday's first salamander locality at 2200 m.

8:45 PM Today Jim Lynch and I spent the time between 10 AM - 4 PM visiting more localities in the Boquete area for salamanders. Following the directions in the Edwards bird book we drove first to the valley of El Volo

Hanken, James 1975

Journal

Panama - Boquete area

Hotel Fundadores, elev 1100m, Boquete, Chiriqui Province, Panama

10 August located 6-7 km (by air) NW of the center of Boquete. ~~At~~ Within a km. after of the point where the road from Boquete crosses the Quebrada El Velo the road was no longer passable for our Volkswagon (but would have been no trouble for a 4-wheel drive vehicle). We returned to the river crossing and then hiked up a path NW up the riverbed and vertically up the NE canyon wall until we reached the ridge ~~at~~ above the canyon. The relatively level area between the ridge at this point and the road to the E is mostly cleared for coffee fields or other agriculture, but the steep canyon slopes were apparently virgin rain forest as far up the canyon as we could see. The steep canyon walls and deep canyon itself was very striking and beautiful. We looked for salamanders under suitable cover objects on the slopes, in the coffee fields, and also in the dense secondary growth areas adjacent to the fields, but none were found. Jim Lynch did find a *Rhadinea* sp. inside a decaying log at the edge between a corn field ~~corn~~ and coffee field along the ridge above the canyon, elevation 1744 m.

Hanken, James 1975

Journal

Panama - Boquete area

Hotel Fundadores, elev 1100m, Boquete, Chiriqui Province, Panama

10 August Temperature inside the log at time of collection was 20.0°C. We remained at this, general locality for ~3 hrs between 11 AM-2 PM before returning to the car. Birds of note seen were a pair of chestnut-capped brush finches, & Atlapetes brunneinucha. Returning towards Boquete we then headed NE on the road which passes along the SE flank of Cerro La Piedra de Lino on towards the N flank of the Cerro Palo Alto (via the road running along the S bank of the Rio Palo Alto). The road gradually worsened until we reached an elevation of ~1500 m when we turned around because of the poor road conditions and steady rain which was beginning to fall. At this point the valley to the N as well as the lower slopes of to the S ~~were~~ are cleared for agriculture or cattle ~~gr~~ grazing, although the steep upper slopes to the S were densely forested. Returning W toward Boquete we stopped at an elevation of about 1400 m. while Jim Lynch examined some banana plants being used as shade trees ~~for~~ and at a forested ravine leading down to the road. No salamanders were found anywhere, including inside two large bromeliads which at ~~Ja~~ pulled down from a tree.

Hankon,
James
1975

Journal

Panama - Cerro Punta area

Audubon Society Cabin along road to Cerro Punta, Nueva Suiza, Chiriqui Province, Panama

11 August 10 PM - Jim Lynch and I left Boquete this morning at around 10 AM and drove ~~essentially~~ essentially straight through to Cerro Punta. We did stop in David, first to repair a flat tire, and then to inquire about the possibility of renting a ~~R~~ "Land Rover" or other type 4-wheel drive vehicle. We had no luck, as neither the car rental agency at the David airport (rents only Datsuns) nor the Toyota agency ~~was~~ were able to rent 4-wheel drive vehicles.

Upon reaching El Volcan de Hato we continued NE to Cerro Punta. While inquiring about the location of the Audubon cabin we discovered that this village ~~h~~ has numerous homes owned by Americans living in the Canal Zone who retreat here to the cooler weather. We spoke to a man named Carl Chapman who owns a house here. He, in turn, referred us to a German named Kurt Hemmerly who has lived in this area for 50 years and owns a pension in the nearby town of ~~B~~ Bambito. We spoke with Kurt and he indicated the various trails with which we may ~~reach~~ reach Boquete, the Continental Divide, and points to the northwest, as well as suggesting a man named Lola Gonzalez who we should see

Hanken, James 1975

Journal

Panama - Cerro Punta area

Audubon Society Cabin along road to Cerro Punta, Nueva Suiza, Chiriqui Province, Panama

11 August about the possibility of renting horses. According to Mr. Hammely there is still only one trail (not for autos) to the Divide, and once there there ~~are~~ is no trail nor inhabitants N of the Divide until a point ten miles from the Caribbean coast. After leaving Mr. Hammely we settled into the Audubon cabin. Shortly before dark Jim and I went for a walk and saw another new bird, the ~~common~~ sooty-capped bush tanager, Chlorospingus pileatus

13 ~~12~~ August Yesterday morning Jim Lynch and I left at ~8AM and E through the town of Cerro Punta to investigate the Boquete trail. After passing through ~~the town~~ Cerro Punta the main road turns N, and the turnoff to Boquete lies just after crossing a small wooden bridge over the Quebrado Graille. We were able to drive in about 2 km. before the road wasn't passable for our VW. At this point we were in the valley of the Quebrado Baja Grande, a relatively level valley ~~with which is virtually all~~ All of the trees along the valley floor and lower slopes have been cut down and the area either cleared for agriculture or cattle grazing, a ~~most~~ many of the logs left lying ~~on~~ ~~ground~~ where they once stood. We turned several of these

Hawken, James 1975

Journal

Panama - Cerro Punta area

Audubon Society Cabin, along road to Cerro Punta, Nueva Suiza, Chiriqui Province, Panama

13 August logs here ~~with~~ but found no salamanders. Along the road as it passes through steeper slopes the forest is essentially intact except in isolated spots where some trees have been cut out. At the saddle ~~over~~ over the ridge, called Paso de Respingo, the ground once again is relatively level, and the trees have been cut and either cleared for farming or grazing pases. We spent over an hour turning ~~logs~~ hundreds of logs in this cut-over clearing, still with no luck. At this point we headed N on the trail to the peak of Cerro Respingo which runs along the ridge running SE from the peak. Here at lower elevations the forest has been previously cut, betrayed by fallen logs and a few scattered tall trees remaining and the slopes densely grown to thickets. The trail then enters virgin forest which, except for isolated small cleared areas, is intact until within one hundred meters of the peak. Here the forest has been mostly cut over and is used for cattle grazing (although no cattle were seen, evidence was everywhere). Despite our turning logs along the entire trail, we ~~first~~ found our first salamander at 2710 m. under a small rotting log 18" x 6" x 6" on the ground beside the trail. The salamander (adult) was discovered half-way inside a burrow ~ 2" wide

Hanken, James 1975

Journal

Panama - Cerro Pando area

Old Audubon Society Cabin along road to Cerro Punta, Nueva Suiza, Chiriqui Province, Panama

13 ~~12~~ August to which it then retreated before being caught. At this point the forest was dense with enormous oak trees reaching over one-hundred feet in height, with a dense understory ~~of~~ ~~m~~ dominated by bamboo. Ground temp. beneath the log was 11.8°C. Only three more salamanders were found (all by me) in the cut over area grown to thickets and used for cattle grazing ~~to~~ nearer the peak. I first uncovered ~~one in~~ a juvenile (<2cm SL) under a strip of bark under an enormous fallen log at 2760 m. Using my potato rake as a wedge I broke open the log and found an adult coiled in a burrow ~1' into the log. This burrow ~~is~~ was apparently made by a large black beetle (family Passalidae) which we ~~found~~ find common in this area. Shortly farther up the trail, at 2780 m. I found another juvenile under a rotting log 5'x6"x6" along the path. These salamanders are all apparently Bolitoglossa compacta, taken previously only on the N slope of Cerro Pando. Ground color on all individuals was black, with dull orangeish coloration forming ~~almost~~ a broad dorsal band on one adult, while ~~some~~ reduced to irregular blotches on the other adult. Both juveniles appeared as smaller versions of the latter. The body shape was robust with the

Hanken, James

1975

Journal

Panama - Cerro Pando area

Audubon Society Cabin along road to Cerro Punta, Nueva Suiza, Chiriqui Province, Panama

~~12~~ 13 August tails noticeably longer than that of the ~~sole~~ holotype as illustrated in the 1973 paper by Wellman, Wake, and Brame. Webbing on the hands and feet was only moderate with truncate digit tips. The only other frogs we found were three Rana sp. (warschewitschii?) with ~~tan~~ lemon-yellow dorsal coloration with ~~a~~ a few dark spots, and salmon-red coloration in the groin, ~~thighs~~ thighs and inside of the leg to the digits. Elevations were 2210 m (on ground partially-cut area by road through oak forest), 2500 m (on ground in cut-over area grown to thickets), and 2450 m (along road through intact forest). One snake (   ) was found inside a rotting log in a small cleared area at 2645 m. In addition, seven Anolis were collected for us at ~~about~~ ~ 2200 m. by a local boy, José Manuel Fernandez (see below).

The weather was overcast in the early morning, and rain began by 11 AM. For the rest of the day ~~there was~~ condition ranged from light mist to heavy rain. The ground and forest everywhere was wet, and the path at points (especially in the cattle-grazing areas) was a big mud-bowl into which you would sink sometimes to depths over a foot. The road to the Paso de Respingo has been widened to accomodate

Hanken, James 1975

Journal

Panama - Cerro Punta area

Audubon Society Cabin along road to Cerro Punta, Nueva Suiza, Chiriqui Province, Panama

13 August cars and trucks but is too muddy for passage shortly beyond where we left our car.

Salamanders continue to appear uncommon in this region. Possibly they are difficult to find because the area is so moist at this time of year and they are not concentrated under logs, rocks, etc. Also, as evidenced by the one of the adults we found yesterday, they may be occupying crevices or burrows deep within logs into which we can't reach. However they remain ~~com~~ uncommon in ~~areas~~ moist habitats where elsewhere they are abundant. ~~Lastly, Most of the~~ Also, we still haven't found forest with large number of bromeliads; the few bromeliads which have been located have been devoid of salamanders (as well as other herps). Lastly, salamanders are not known to any of the local people. One boy who helped us yesterday, who lives along the trail to Boquete on a farm with his family ~~did not know~~ ~~as~~ brought us 7 anoles when we asked him to find salamanders, and admitted he had never seen ~~one~~ salamanders until we showed him one which we had caught.

Hanken, James

1975

Journal

Panama - Cerro Pando area

Audubon Society Cabin along road to Cerro Punta, Nueva Suiza, Chiriqui Province, Panama

13 August 10 PM Our ill-luck continued today as ~~we again~~ Jim Lynch and I again tried to find salamanders in this area. We left at ~10 AM back to ~~E~~ El Hato del Volcan and then from there took the ~~~~ highway NW towards Santa Clara. Our U.S. Army Topo maps indicate this road as unpaved but it is at present a two-lane paved road as far as we drove today (see below). Looking for favorable sites we decided to work the W flank of a mountain called Cerro Pando located 6½ km W and 5 km N (by air) of Volcan. This peak reaches only 1756 m., and is not the same mountain ~~[illegible]~~ of the same name which lies on the border with Costa Rica. The lower slope on the W flank are ~~~~ cleared in parts for ~~~~ fields or banana groves, but the rest of this flank and upper elevations are essentially intact virgin forest. I climbed up one of the main ravines to within 50 m of the peak while Jim worked the lower uncut slopes of another nearby ravine. No salamanders were found here nor in the banana plants nor under logs in a cut-over area. I found two tiny (~1 cm S-V) *Eleutherodactylus* on the ground among some felled logs, while Jim found one *Anolis*. We left

Hanken, James 1975

Journal

Panama - Cerro Pando area; Panama City

Audubon Society Cabin along road to Cerro Punta, Nueva Suiza, Chiriqui Province, Panama

13 August this site at ~2:30 PM and continued W to look for other possible sites. However, after driving 20 km (dry road) past Cerro Pando we were at an elevation of ~1200 m and still dropping and decided to return to Nueva Suiza. At this furthest point the road was still paved and two lanes wide and most of the lower, level slopes were cut-over for agricultural purposes.

Hotel Parador, Panama City, Panama Province, Panama

14 August 5 PM Jim Lynch and I left Cerro Punta this morning at ~7 AM and arrived here just a short while ago. Tomorrow AM Jim leaves to join Dave Wake and Martin Feder in Guatemala while I will try to acquire a Land Rover from STRI or another rental car and return to the Chiriqui area. The weather this AM in Cerro Punta was the best we'd seen yet with clear, sunny skies. Volcan Chiriqui could clearly be seen to the peak from the W and we were lucky to get a few photos. White-tailed kites (Elanus leucurus) were extremely common once we entered the Pacific lowlands, as were yellow-headed caracara (Milvago chimachima) which were often seen

Hanken, James 1975

Journal

Panama - Cerro Punta to Panama City → Boquete

Hotel Parador, Panama City, Panama Province, Panama

14 August feeding on road kills.

Hotel Fundadores, Boquete, Chiriqui Province, Panama

15 August 10PM Saw Jim Lynch off at the Tocumen airport this AM, then bought more supplies and tried unsuccessfully to obtain a 4-wheel drive vehicle ~~f~~ from the Smithsonian people. Left Panama City at 11AM and arrived here at ~7:30PM. I stopped in Santiago at the Ministerio de Agropecuario + Desarollo to pick-up my exportation permit, but the Director-General wasn't satisfied with the form drawn-up by one of his underlings and refused to sign it; I was told to come back again in ten days on my way back to Panama City. The weather today was excellent for driving, with some rain in spots but also long periods of direct sunlight. Even when the sky was overcast the clouds were high and visibility excellent for miles (only usually the tops of the highest mountains to the N were obscured by clouds, if at all). The bright sunlight evidently had an effect on reptile activity as one ~~[illegible]~~ snake was found DOR ~~on the road~~ ~100 yds W of the E border of Chiriqui Province, where the road

Hanken, James 1975

Journal

Panama: Panama City → Boquete;

Hotel Fundadores, Boquete, Chiriqui Province, Panama

15 August passes through a deep road cut in a disturbed savannah-like area with cleared fields for cattle grazing and scattered clusters of trees. The snake was Masticophis-like with a long, slender body ~5' long, and smooth scales, but with a definitely different head shape (the supratemporal scales appearing almost to form a "shelf" over each eye). The dorsum was a solid dark green which gradually lightened on the lower half of the first scale row until all but the lateral edges of the ventral scutes were a very pale green. The snake was found at ~4 PM and was not at all stiff or badly run over, i.e. appeared to have just recently been hit.

Hotel Panamonte, Boquete, Chiriqui Province, Panama

16 August 10PM Again no salamanders. After spending part of the morning arranging for someone with a Land Rover to drive me up the Volcan Chiriqui road tomorrow, I headed E out of Boquete to look for salamanders in the Cerro Palo Alto area. After crossing the bridge E from the Central Square I took the river road N from Boquete, then turned E at the first fork towards Buenos Aires. I was able to drive to an elevation of 1490 m. before the road was too difficult for my VW. From here I walked on along the "jeep road" as it ascended

Hankar, James 1975

Journal

Panama: Boquete area

Hotel Panamonte, Boquete, Chiriqui Province, Panama

16 August through ~~[illegible]~~ the former forested areas cleared for cattle grazing. Oaks lined the road and also second-growth stands in other areas; Acorn woodpeckers were abundant. U.S. Army Topo Sheet 3442 III - Boquete indicates the road ending <1 km SE of the peak of Cerro Palo Alto at an elevation of ~1700 m, but the road at present continues ascending W to a height of almost 1900 m less than a km SW of what appeared to be the peak of Cerro Azul. At this point a deep ravine has recently been cleared (by slash + burn) of forest. I climbed E to the ridge below the nearby peak (Cerro Azul) to a height of 1960 m (I'm not positive of the peak because the topography and potential landmarks didn't easily fit the topo sheet. The upper parts of the SE side of the ridge ~~have~~ has long been cleared of forest and is presently used for cattle grazing. From the ridge at this point there is a path ~~[illegible]~~ leading W ~~[illegible]~~ joining the jeep road at ~1800 m. This path passes through virgin forest with abundant fallen ~~[illegible]~~ moss-covered logs along the path and deeper in the woods. No salamanders were found inside or under logs, under bark, or in the few bromeliads seen which were ~~[illegible]~~ opened. At points the forest resembled that on Cerro Respingo

Hanken, James 1975

Journal

Panama : Boquete area

Hotel Panamonte, Boquete, Chiriqui Province, Panama

16 August where Jim Lynch and I found B. compacta, with a upper canopy of trees and a lower canopy of bamboo. Returning along the road, rocks and logs were turned as they had been on the way up, and only one Rana was found under an exposed log ~~by~~ by a cleared hillside next to virgin forest at 1820 m. This is a different species than those which have been found so far, with a dark green dorsal ground coloration with irregularly-paired dark blotches dorsally more-or-less arranged in two rows, and little if any coloration in the groin. Venter was pale. In addition one Anolis sp. was found along the ridge at 1950 m. on the ground by a fallen log adjacent to a second-growth oak woodland. This excursion lasted from 10:30 AM - 4:30 PM. Returning to the hotel I walked across the footbridge ~~and so~~ to the E and walked back along the road to Buenos Aires for ~150 m. before crossing the river to the N. Here I worked a low hillside which has been cleared and planted with coffee, corn, and orange trees. A few ~~tall sta~~ scattered stands of forest trees remain. No salamanders were found in ~~logs unde~~ likely habitats in this area, including several banana plants which were also examined. One Anolis sp. was found at 1200 m. ~~on a~~ 5' up on a tree trunk on ~~the~~ an

Hauken, James 1975

Journal

Panama: Boquete area

Hotel Panamonte, Boquete, Chiriqui Province, Panama

16 August exposed hillside with low shrubs and orange trees. It was distinctly different from other anoles found previously with an almost black dorsal coloration and dorsal spines forming a slight mid-dorsal spine from just behind the head to tail tip. Dew lap was orangeish.

17 August 10 AM This morning I attempted to go up to the crater of Volcan Chiriqui. ~~[illegible]~~ I arranged to be driven up by Sr. Antonio Moreno, a local merchant who owns a Land-Rover-type car. We met shortly after 7:30 AM as planned and headed up, but by 8 AM ~~[illegible]~~ heavy rains started and we could only make it as far as 1840 m. before his car couldn't make it up the road because of mud. We returned to Boquete and will try again mañana — ~~of~~ a fast ten bucks gone to Sr. Moreno!

18 August 10 PM Drove into David yesterday afternoon to try to track down the scoop on the two men from David who just blazed a trail from the Continental Divide to the Bocas del Toro. They evidently did it in a Land Rover (or equivalent), and took a month in doing it (they just flew back to David a few days ago). The only

Hanken, James 1975

Journal

Panama: Boquete area

Hotel Panamonte, Boquete, Chiriqui Province, Chiriqui

18 August thing I was able to ascertain ~~and~~ ~~between my broken Spanish and~~ was that they journeyed near the Rio Caldera for a distance; I was unable to find out from what northern city in Chiriqui they left.

~~Last night I took the road NW from Boquete to the where it cross~~

~~A~~ Last night I went to the Quebrado El Velo ~5 km W + 4 km N of Boquete where the road NW out of Boquete crosses the stream and the area ~~which~~ Jim Lynch and I worked for salamanders on 10 August. Here a trail passes from the ~~river~~ stream level up the NE canyon wall ~~of~~ through virgin forest to the coffee finca ~~above~~ on the level area above. Using a ~~f~~ headlamp I was unable to locate any salamanders on leaves, trunks, or logs neither in the forest nor coffee finca. Returning to the road via the stream bed I collected one *Anolis* sp. found inactive on a leaf 7' above stream level at water's edge. at 1650 m. As the road into the area was muddy from the day's heavy rains I had to walk in and back about 1 mile each way. Time of observation was ~~about~~ ~2½ hrs beginning at ~2 hrs. after sunset.

Hanken, James 1975

Journal

Panama: Volcan Chiriqui

Hotel Panamonte, Boquete, Chiriqui Province, Panama

20 August 10AM Have spent the previous two days working the upper elevations of Volcan de Chiriqui. On 18 August Sr. Moreno reneged on our ~~agreem~~ agreement for him to drive me to the peak, so at ~8AM I drove my VW past El Salto to an ~~ele~~ elevation of about 1630m, and walked from there to just beyond the crater SE of the peak to an elevation of ~3000 M. The weather was sunny and warm in the AM, but soon after arriving at the crater heavy rains began which continued from that time (~1 PM) on into evening. A jeep road runs part-way along the E rim of the crater, above the main road which continues ~~a~~ northward E of the crater to the peak. Vegetation along the crater rim and on the walls of the crater is of low (<8-10'), stunted, dense brush and trees, much like chaparral. Several charred logs along the rim road indicate burning in the not-too-distant past. To the E and just below the rim the mature, tall, virgin forest ~~encountered~~ reaches its upper limit. The walls of the crater were very steep and I was unable to climb down to the crater bottom. I made one attempt but had to turn back because of ~~slippery~~ loose mud and stones forming the walls. There were several logs imbedded the bank along

Hanken, James 1975

Journal

Panama: Volcan Chiriqui

Hotel Panamonte, Boquete, Chiriqui Province, Panama

the rim road, and under the first one which I turned

20 August I found 5 salamanders, all apparently Bolitoglossa marmorea, with an additional salamander found inside the charred log. Turning similar logs and rocks along the rim road for the next hour, though, only produced three more animals under logs of sizes 4"×4"×5', 5"×5"×6', and 5"×5"×3'. Returning to the main road, I continued upwards turning logs at the roadside and found one more salamander under ~~at~~ a log in the road bank 6"×6"×6'. As was the case at lower elevations, the slopes of the volcano are very steep and densely wooded, making it difficult (if not dangerous) to work for salamanders. The few relatively level localities encountered were worked, but no salamanders found. Reaching an elevation of ~3000 m. I began heading back down the mountain. Additional salamanders were uncovered between the elevation of 2780-2860 m. At this elevation the road passes through a second-growth forest (originally forest was burned out) grown to, mostly to oaks, with a few tall, original oaks remaining. All salamanders were found under logs along or just above the road bank, including five found associated with a cluster of

Hanken, James 1975

Journal

Panama : Volcan Chiriqui

Hotel Panamonte, Boquete, Chiriqui Province Panama

20 August thick (1'x1') rotting logs in the sloping sand of the high road bank. The two other logs with salamanders were of ~~sizes~~ dimensions 1'x1'x5' and 1'x1'x4'. I returned along the road to my car, and drove back to the hotel, arriving at ~6:30 PM. The combination of heavy constant rain and cold temperatures make working this region ~~sev~~ extremely difficult. My raincoat and rubber boots prove ineffective at keeping out moisture, as my clothes and body ~~are~~ were completely saturated by the time I returned to my car. Another charming side-effect of the working conditions was when ~~my thumb refused~~ to the muscles of my thumb refused to flex after being cold for so long. This occurred when I tried to write some notes at ~2800 m.

Yesterday, I procured a ride to ~~the~~ just beyond the crater with a Sr. Menendez who operates a hardware and paint store in Boquete, but also ~~opera~~ owns the Finca at ~2200 m. where Jim Lynch and I found the new species of salamander last week. Sr. Menendez has a jeep (about which he ~~boasts~~ boasts having had it since 1948) with which he drives to his finca every Tuesday, Thursday, & Saturday. I drove with him to his finca, and then he

Hanken, James 1975

Journal

Panama: Volcan Chiriqui

Hotel Panamonte, Boquete, Chiriqui Province, Panama

20 August agreed to drive me on to ~~t~~ the peak. We proceeded to just above 3000 m. where there is a work camp for road-workers during the dry season at which point his fan-belt broke and he had to return to his finca. ~~Continuing along the road by foot~~ This turned out to be just as well for me, because continuing along the road by foot, within a few hundred meters (by road) there were several mud & rock slides which prevented passage by car any farther along. I continued along the road to the ~~pe~~ just below the peak where the road ends (~3350 m); from here there is a foot path along the narrow ridge to the peak. Well-developed, tall forest drops out at ~3200 m, at which point the trees get progressively smaller until near the peak the vegetation is of low (<8-10') scattered trees ~~of~~ with the ground covered with low shrubs, lichens, and mosses. As the rain had started by ~11 AM before I had reached the peak, the ground and plants were saturated with moisture, but from the degree to which every limb and branch was covered with moss this seems to be the ~~general~~ usual situation. The ground was literally covered with small (<1'x1') rocks at this elevation, and there was a definite lack

Hanken, James 1975

Journal

Panama: Volcan Chiriqui

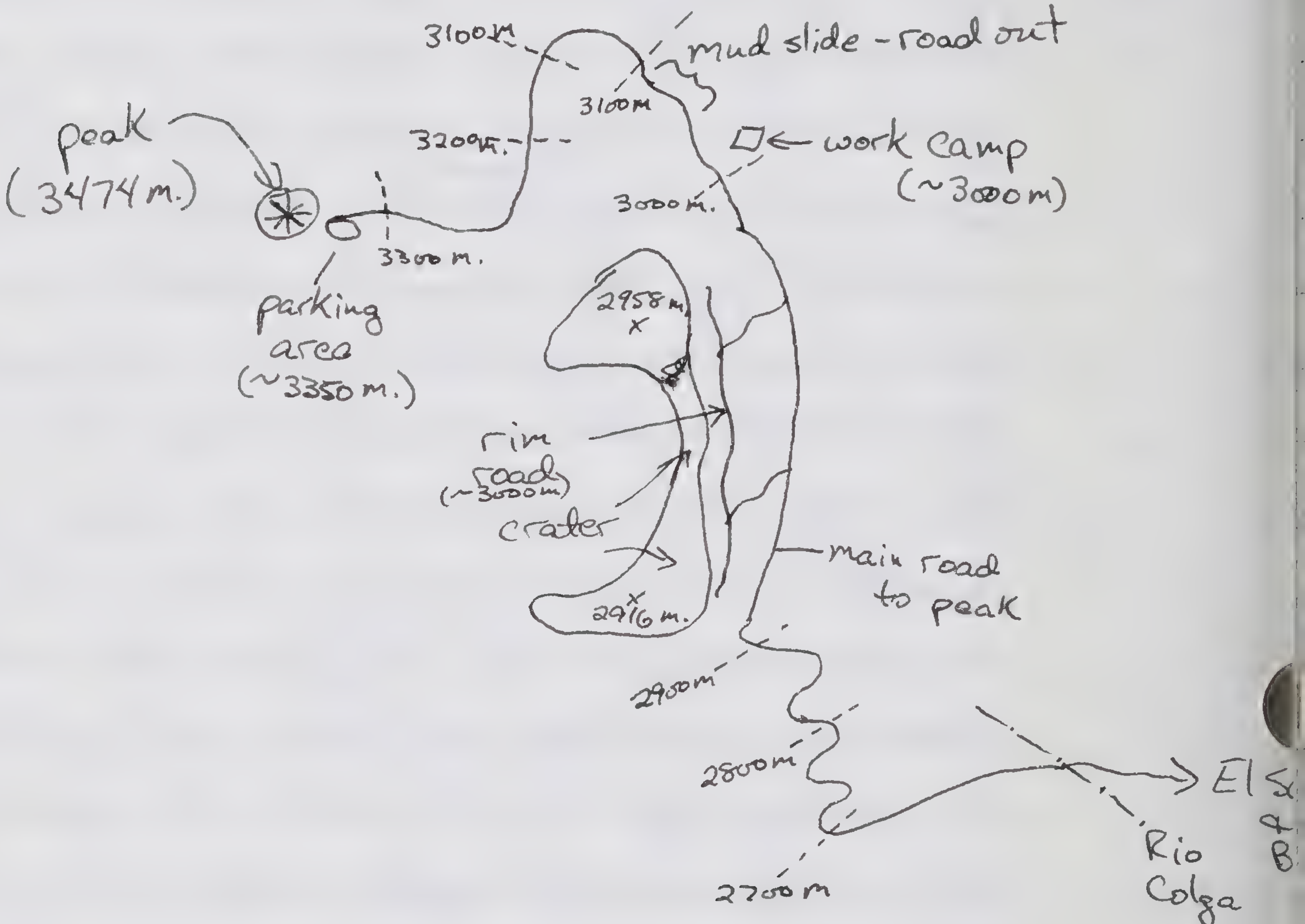
Hotel Panamonte, Boquete, Chiriqui Province, Panama

20 August

of decaying logs. Turning numerous rocks and what logs there were (most were in the road bank) produced no salamanders. However, at even slightly lower elevations, (~3200 m) where the forest was denser and rotting logs were abundant no salamanders were found except at 3180 m. where one was found ~~at~~ under a small stick 2"×2"× 1½' at the edge of a small roadside clearing, and another under a stump 5"×5"× 1½' imbedded in the road bank. Only two other salamanders were encountered, at 3060 m. together under a rotting log 1½'×1½'×6' on the road bank where it passes through tall, mature forest. These two sals seem to ~~go~~ represent the extremes in coloration of this species. One individual has a dorsal ground coloration of dull orange with a suffusion of tiny black dots throughout. This black coloration becomes more continuous on the sides of the tail. The other individual is almost entirely dark above, with faint orangish flecks ~~at~~ on the ~~to~~ sides of the trunk, and on the tail and limbs. In both sals the venters are dark (but not black), and the eyes are black.

As the road as it now exists is not indicated on the army maps I have ~~drawn it on~~ the

road to Volcan de Chiriqui from Boquete



- road runs N below the E rim of the main crater SE of the peak
- at ~3100m heads S and ascends a gently sloping ridge towards the peak

Hanken, James 1975

Journal

Panama: Volcan Chiriqui

Hotel Panamonte, Boquete, Chiriqui Province, Panama

20 August included a diagram of it. One ~~definitely~~ definitely needs a 4-wheel ~~dr~~ drive vehicle, but also an driver ~~with~~ who knows the road. I doubt that I could have driven the road yesterday by myself, as Sr. Menendez obviously knew where the particularly rough spots ~~are~~ are and how to negotiate them. ~~The road~~ According to Sr. Menendez the road above 2700 m was first built two years ago. Bulldozers reworked the road a year ago and will be coming again in October. ~~I doubt if it will be~~ Just in the few days that I have seen it, I have seen it deteriorate immensely from the heavy rains. Quite possibly the road will be impassable just a short ~~way~~ distance above ~~the~~ Sr. Menendez' finca by that time.

I returned to Sr. Menendez' finca shortly before 6 PM, and I returned with him to Boquete. The rain which had started at ~11 AM continued on into the evening. Upon returning to the hotel I had severe chills and was still shivering over an hour after having had a hot shower and dinner. I went to sleep by 8 PM.

The only ~~s~~ bird which I've been able to identify (no tengo binoculars) is a pair of

Hanken, James 1975

Journal

Panama: Cerro Punta area

Hotel Panamonte, Boquete, Chiriqui Province, Panama

20 August long-tailed ptilogonys, Ptilogonys caudatus, seen yesterday at ~3200 m el.

Pension Volcan, El ~~Volcan~~ Hato del ~~Hato~~ Volcan, Chiriqui Province, Panama

21 August NYPH Arrived here yesterday afternoon after driving from Boquete. Due to a major foul-up with the caretaker of the Audubon Society house below Cerro Punta I'm not able to stay there any longer.

Last night I walked ~~with~~ using a headlamp through a patch of mature forest located ~~along~~ between the Rio Chiriqui Viejo and main highway in Nueva Suiza, elevation ~1800 m. The forest is located next to the home of a Catholic minister, Father Baldwin, and also in the same area as a group of homes owned by other Americans. I assume that it is also owned by Americans who have not done anything with it, as I would expect such a level tract of land next to the river to be cleared and ~~plowed~~ ~~under~~ used for agriculture if under local ownership. I walked slowly along the road through the forest for a distance of over 300 meters, and often ventured into the woods, but no salamanders, or any other herps for that matter, were seen on the forest floor, fallen logs, ~~trees~~, or tree trunks, or leaves. I did notice moths, beetles, and other insects, and feel confident that I ~~would have~~ did not

Hanken, James 1975

Journal

Panama: Cerro Punta area

Pension Volcan, El Hato del Volcan, Chiriqui Province, Panama

21 August miss any salamanders. No frogs were seen, and only an occasional call was heard from the stream below.

This morning I first checked in with Mr. Hammerling at the Bambito Cabinas. He had heard of the recent crossing of the Continental Divide and drive NE to the Caribbean by the two men from David, and knew the route. The men left from the town of Caldera located E of the main highway between David and Boquete and ventured NE in the drainage of the Rio Chiriqui. After crossing the Divide they then headed NE, possibly in the drainage of the Rio Guarumo, and finished on the Caribbean coast at Punta Róbalo. According to Hammerling, Standard Fruit Co. built a road a long time ago which was also used to drive cattle from Chiriqui to Bocas del Toro and the coast - presumably the two men followed this trail.

After leaving Hammerling I drove to Cerro Punta to try to ~~[illegible]~~ find another accessible high-elevation locality. Taking the road NW from the main highway at the center of town (~1960 m.) I headed towards Cerro Punta (the mountain). In the area of Las Nubes, ~~just~~ due W of the mountain, the road was no longer passable for my VW. I walked farther on from here ~~on~~, taking a road W along ~~[illegible]~~ a small stream where the road

Hanken,
James
1975

Journal

Panama: Cerro Punta area

Pension Volcan, El Hato del Volcan, Chiriqui Province, Panama

21 August forked less than a km. from my car, I attempted to ascend the peak S of this road (due W of Cerro Punta) which reaches an elevation of 2410 m. The lower N-facing slopes are cleared for agriculture or horse grazing ~~but~~ and above that is steep, dense forest. I inquired ~~to~~ with numerous people who lived along the road and none knew of a trail to the peak or thereabouts (they also did not have a specific name for this mountain). I climbed up a hillside which had been cleared and burned for future agricultural use, but was not able to penetrate the forest above the cleared area, reaching a maximum ~~tote~~ elevation of slightly above 2200 m. I returned down the hillside through mature, virgin forest adjoining the cleared area. All during my climb (~4 hrs) I turned logs + rocks both in forest + cleared areas, but found no salamanders. The only herps collected were at 2160 m, where an Eleutherodactylus was found on the ground on the cleared hillside, and another frog (see color notes below) was found on the forest floor beneath the dense understory of bamboo + palm.

Returning to Cerro Punta I worked the forest visited last night in Nueva Suiza, this time turning logs, etc.: no sals were found.

Looking for salamanders is now getting

Hanken, James 1975

Journal

Panama: Cerro Punta area

Pension Volcan, El Hato del Volcan, Chiriqui Province, Panama

21 August particularly frustrating, with much work being put in for often no reward. Despite the fact of the rain and often poorly accessible localities, even when these and more easily-reached localities are visited, no salamanders are found. I am about ready to give-up working this area, not having any ideas as to more-likely places to visit or better methods to use.

Color notes: Today's small (~1½ cm SVL) Eleutherodactylus resembles the other tiny frogs which have been the most common species in this area. In addition to the generally brownish dorsal coloration are several alternating dark + light stripes which radiate from the eyes onto the upper + lower lips and just below the lower jaw. The second frog I am unable even to place to family. SVL ~3cm. Toe tips not expanded. Ground color is pale lime-green, paler ventrally, with some indistinct patches of olive-green on the trunk (dorsum). Head is arrow-shaped from above; snout pointed. Eyes dark except for thin, light cornea.

Hanken, James 1975

Journal

Pension Volcan, El Hato del Volcan, Chiriqui Province, Panama

22 August 6 PM Last night I left at ~8PM heading NW on Hwy 11 intending to walk along a small stream located 26 km from Volcan which Jim Lynch and I had found last week. There had been no rain in Volcan all day until late afternoon when heavy showers fell for over an hour. This proved to be favorable for night driving, as several amphibians were found on the road. ~~[illegible]~~ One caecilian was found DOR 10 km (by road) NW of the junction of Hwy's 11 + 13 in Volcan. There was viscera protruding from the body ~~[illegible]~~ ~~[illegible]~~ at a point ~1/3 body length from the head and the lower jaw appeared broken. Approx. [5] 1 km farther along the road ~~[illegible]~~ a frog was taken (P30), probably an Eleutherodactylus. A Bufo (marinus) was found on the road 4 km farther on. Reaching the intended stream I parked the car and then proceeded along a road which runs along the stream for ~50 yds, then crosses it and leads ~~up~~ gradually up the canyon wall. I proceeded slowly with a headlamp scanning the high road banks overgrown with vegetation for salamanders, but none were found. Neither were any found on any of the broad (up to 2' across) leaves overhanging the stream

Hanken, James 1975

Journal

<u>Pension Volcan, El Hato del Volcan, Chiriqui Province, Panama</u>

22 August Jim Lynch and I had thought this to be a good place to find centrolenid frogs but no frogs were even heard calling. I did find one snake, <12" total length 4' ~~high~~ above the ground on a large leaf (~1½' across) next to the road 10' from the stream. The snake was actively moving along the leaf despite an air temp. of 18.8°. The snake was beautifully colored with a yellow ground color dorsally + ventrally, alternating incomplete dorsal + ~~[illegible]~~ lateral transverse bands, and a thin median ventral black stripe ~~and~~ with a longitudinal row of black dots on either side of this ventral stripe (one dot/caudal scale/side). Returning to Volcan I stopped along two ~~[illegible]~~ tall roadcuts well overgrown with moss + other vegetation to look for salamanders, one 18 km and the other [illegible] km from Volcan. No salas were found, but at the latter locality two hylid frogs were found in the slowly running water ~~[illegible]~~ in a drainage gully at the base of the road cut. I returned to Volcan shortly after 11 PM.

Hinkon, James 1975

Journal

<u>Pension Volcan, El Hato del Volcan, Chiriqui Province, Panama</u>

23 August 8AM Beginning with last night's notes I will be using ball-point ink as my rapidograph is about out and I discovered that the cleaning lady at the Hotel Paramonte must have thrown it out as it never made it back into my belongings.

Yesterday AM I walked the slope opposite the one walked yesterday, along the dirt road leading E-W from Cerro Punta (the mountain) towards Cerro Picacho. I couldn't see how far the road leads as I walked little more than a km, but it appears as though it might end (for autos at least) where the river forks ~1 km farther W. No trail could be seen leading up Cerro Picacho. A jeep trail led ~~from the~~ up the slope which I walked, passing through the cleared lower slopes and then continuing on along a ridge through wooded deep ravines. There is a rounded peak at ~2300 meters, but to the N the mountain keeps ascending, reaching the Continental Divide at ~2400 m. ~~Another~~ Peak in ~1 km (air line distance). ~~Approaching the lower peak the~~ Below the lower peak much of the relatively level land has been cleared for cattle grazing. There is an abundance of fallen, often charred logs, and

Hanken, James
1975

Journal

Pension Volcan, El Hato del Volcan, Chiriqui Province, Panama

23 August The ground is extremely muddy and soggy from the combination of cows and rain. The area resembles the area near the peak of Cerro Respingo. I reached a maximum elevation of little over 2200 m at the upper edge of the cleared area. A little below there the road had forked, with the road not taken leading off to the NW. The fork which I took ended in the cleared area. ~~[illegible]~~ At least two hours was spent working the cleared area with the abundance of logs but no animals were found. This included an area cleared long ago which has an abundance of fallen, rotting, moss-covered logs below a canopy of tall trees adjacent to the virgin forest, differing only in a thinner understory. The only frogs found were along the road at an elevation of 2140 m ~~[illegible]~~ above the cleared lower slopes and adjacent to a forest partially cleared. One salamander was found 4 cm on an enormous rotting log, after raking away the surface layer of lichens, rotten wood and earth. The rest of the log was checked in similar fashion but no other sala- found. This is a different species than other

Hanken
James
1975

Journal

Pension Volcan, El Hato del Volcan, Chiriqui Province Panama

23 August — found so far. The lone individual (PS1) is a mature ♂ (well-developed cirri, mental gland) of ~3cm SVL. Ground coloration is black with fine light speckling dorsally. The venter is black. Feet have a large degree of webbing. Under a log (1'x1'x6') along the road near the first log we found a frog (PS2) in a small depression in the ground ~3"x3" x2" deep. There were several eggs in the depression which the frog was brooding. Upon being uncovered the adult frog didn't move from the depression nor did it move when nudged by the observer. Even after I picked it up and placed it back in the depression it remained stationary. Both the adult & eggs were collected. The eggs were of many different sizes, apparently representing different stages of dev't at which they stopped growth. The largest eggs had "tadpoles" with yolk-sacs attached and could be seen squirming about within the egg. I returned to Volcan at ~4:30 PM and spent ~1½ hrs looking for Las Lagunas, two lakes SW of Volcan. They are located within a broad flat area cleared for cattle grazing and have a good stand of broadleaf rain forest surrounding them.

Hanken
James
1975

Journal

Reunion Volcan, El Hato del Volcan, Chiriqui Province, Panama

23 August New bird seen yesterday is the ochraceous wren Troglodytes ochraceus. Two were seen gleaning insects from the trunk of a tree in the area cleared for cattle grazing at ~2200 m.

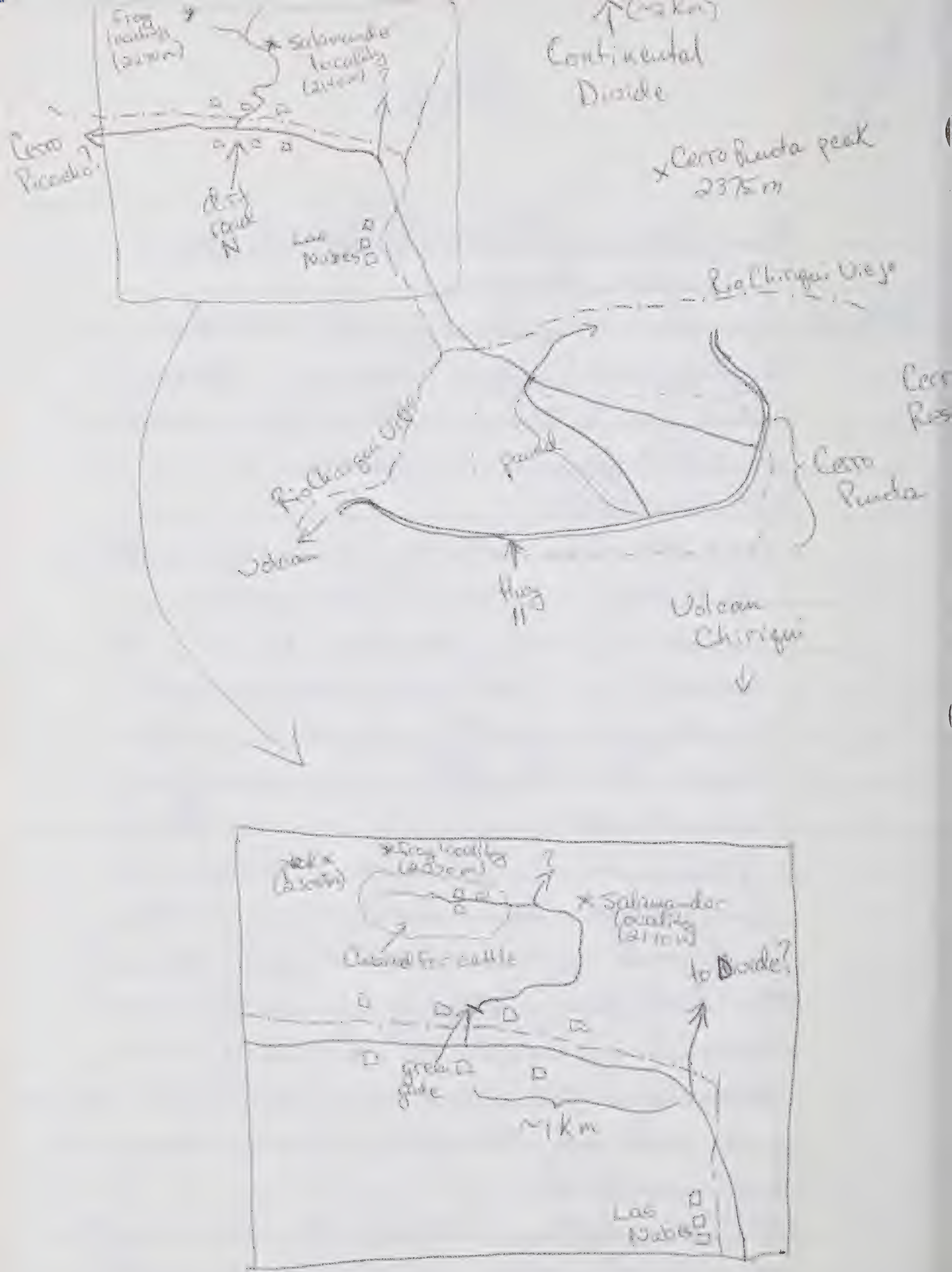
5PM - Color notes:

P76 ♀ dorsal ground color indistinctly mottled dark olive-green and black, lacking indistinct banding on limbs. Warts with reddish tinge. Venter pale with green dots

P77-80 - Dorsum of alternating dark + light-brown; the dark brown forming an incomplete, irregular ~~dk~~ longitudinal band. ~~Do~~ Dorsum of legs is banded with thin "olive-green" border at edge between dark + light-brown. Sides of trunk with light + dark mottling. Venter pale

P80: Dark green-brown dorsum with broad dorsal band, with reddish tinge, edged with black. Venter below waist pale, above waist mottled cream gray with gray dominating above pectoral girdle, and cream below

5PM Today between ~9AM-3:30 I worked the virgin forest just above and to the NW of the area worked yesterday (see map). This is the first really typical "cloud forest" encountered yet, with an abundance of tree ferns, palms, and


Continental Divide
Cerro Punta peak
2375 m
Cerro Picacho?
Salamander locality
Las Nubes
Rio Chiriqui Viejo
Cerro Punta
Volcan
Hwy 11
Volcan Chiriqui
Cleared for cattle
Salamander locality
to Divide?
green gate
~1 km
Las Nubes

Hauken, James 1975

Journal

Panama: Volcan, El Hato del Volcan, Chiriqui Province, Panama

broadleafs. The ~~[illegible]~~ elevation here is ~2300 m, but I could not ascertain how much lower. I detected on the lower west slopes. Despite the favorable habitat I could find no salamanders in or under logs, bark, or in broadleafs. I also worked adjacent second growth slopes and the pastures, and found one frog (P838) at 2270 m. on the ground in an opened cut slope próximo to low bushes & trees. The frog was ornately colored with yellow, black & green; possibly is a Dendrobatid (see color notes later) The weather ~~[illegible]~~ was quite favorable today after early-morning fog. The skies were actually clear & sunny until ~ 2 PM when the rains began.

24 August 8 AM Last night tried to go to Las Lagunas to walk through the woods at night and possibly see some frogs. ~~However after [illegible] [illegible]~~ ~~[illegible]~~ I drove again along the dirt road towards Las Lagunas to the fork which, to the right, leads to the Finca Justyn, and, to the left, more directly to the Volcan. The latter road is impassable by car so I walked ~~[illegible]~~ ~2 km along the road to a point

Hanken, James 1975

Journal

[illegible] Volcán, El Hato del Volcán, Chiriquí Province, Panama

23 August just before the road again crosses, here the water draining off ~~of~~ of the gently sloping plain mostly cleared for cattle grazing, forms a small stream across the road which I would have had to enter to near my waist to cross. When I walked this route ~~on~~ in the afternoon of ~~the~~ 22 August the stream was much lower and easily crossed; evidently this afternoon's rain flooded the stream. I returned the way I came and will try again tonight. One curious feature noted was the complete absence of any calling frogs along the length of the stream which ran through the road for its length or in the flooded area.

24 August (6 PM) Went today to the town of Progreso located just E of the Costa Rican border ~ 10-15 km S of the Pan American highway (accessible via a paved highway from the Pan American highway at the border). There are previous records from the vicinity of Progreso of *Bolitoglossa lignicolor* and *Oedipina* [illegible]. The area is highly ~~dev~~ developed for agriculture, rice and bananas being two of the major crops. I could locate essentially no ~~[illegible]~~ ~~[illegible]~~

Hawker,
James
1975

Journal

<u>Pension Volcán, El Hato del Volcán, Chiriquí Province, Panama</u>

24 August remaining stands of original forest, mature trees remaining only in the vicinity of houses or along fence rows. Banana groves are ~~as~~ evident throughout the area, from large plantation-size stands to small plots in peoples' yards. I was able to enter several of these groves around Progreso, and looked under fallen limbs and peeled away leaves on standing trees, but no salamanders were found. I did, though, in this manner find ~~three~~ two frogs, both hylids. One, #P84, in the slight concavity where a banana leaf comes out from the trunk ~4' high, the other #P86 was found clinging to a trunk ~4' high. The former locality is along the main highway 3 km E of Progreso, the latter on ~~a side~~ this road ~~running~~ 4 km ~~from the road~~ E of town. Few fallen, decaying logs could be found to examine. Five large logs were found along a fence row at the edge of a large cleared field (~~?~~ for grazing use?) along a side road running S from the main highway ~2 km E of Progreso. These logs were worked for at least ½ hour and all that was found besides ants and termites was one small frog (possibly a *Bufo*) #P85,

Hauken, James 1975

Journal

Penjón Volcan, El Hato del Volcan, Chiriqui Province, Panama

24 August 4" Dug into one log 1½'×1½'×6'. I remained in the Progreso area for ~1 hour before returning to Volcan. ~10 km N of Progreso I stopped to walk the back yard area about an old house along the road. While the woodland [illegible] was mostly cleared and replaced with scattered bamboo, banana trees, and shrubs, there were many mature trees offering good cover, and many rotting logs. No salamanders were found, but I did briefly see a racer-type snake dart off into the brush. I returned to Volcan at ~4 o'clock. Tonight I will try again to reach Las Lagunas.

25 August 8AM Last night drove to the Finca Jantzen and from there walked to ~~the~~ Las Lagunas. A steady rain had fallen late yesterday afternoon into evening and I assumed there would be much amphibian activity. However, despite walking along the main road and along trails through the brush growing vegetation along the NE border of the upper lagoon for over an hour, no ~~a~~ amphibians were found. No breeding choruses of frogs were found, the only calling being a high-pitched "peep" ~~which~~ coming

Hawken, James 1975

Journal

Pension Volcan, El Hato del Volcan, Chiriqui Province, Panama

25 August from various points along the stream running through the ranch (of the ~~[illegible]~~ from high in trees), the origin of which I couldn't locate. I did see an armadillo walk across the road next to the ~~to~~ upper lagoon, and another mammal was seen moving about (above) in the trees high above, but not ID'd.

Pension Chirivanas, El Valle de Anton, Province, Panama

25 August ~~3~~8PM Arrived here ~~of~~ at ~~[illegible]~~ ~5PM after driving from Volcan. Between 8-10AM I returned to Las Lagunas to turn logs, etc. in the forest to look for salamanders, but was again unsuccessful. According to Mrs Jantzen of Finca Jantzen, the forested area around the lagoons is property of ~~the~~ Chiriqui Province and is being kept undisturbed ~~of~~ as a result of the urging of her late husband. There is a rather small house ~~[illegible]~~ owned by American on the shore of the N. ~~[illegible]~~ lake, but their holdings are limited to the relatively small area bounded by a fence. The land forest surrounding the E edge of the

Hanken, James 1975

Journal

Pension Chirinanis, El Valle de Anton, Cocle Province, Panama

25 August El Valle is quite a contrast to the denuded aspect of the surrounding hills and plain now comprising ranch land. Whether ~~the~~ the ranchland was once as lush as the remaining forest I can't say, but Mr. Jantzen attests that it was all forested no more than 50-60 years ago.

During the ride here today I stopped to pick-up my exportation permit from the Ministerio de Desarrollo Agropecuario. They had it all prepared when I arrived.

Will include comments about El Valle in tomorrow's notes.

Picked up a bird snake DOR today 8 km. W of La Concepcion on the road to Volcan. It was quite crushed and ~~[illegible]~~ the viscera extruded, but I will try to preserve it as a specimen.

26 August 7PM - Last night drove a few km. S of El Valle along the main highway to walk along road cuts. There are some relatively high road cuts (>20') with exposed rock and overgrown with vegetation, often with water seeping out, but no salamanders were found.

Hawken,
James
1975

Journal

<u>Pension Chiricana, El Valle de Anton,
Coclé Province, Panama</u>

26 August The town of El Valle is ~~was~~ located in the center of an extinct volcano at ~ 700 M. The resident population is ~7000, but ~~it~~ it is a favorite vacation spot and a "2nd home" location for families from Panama City. The vegetation about the village is quite lush, ~~although~~ although little of forest remains except along road cuts & the streams which ~~run~~ dissect the village. There are also many farms, with oranges an important crop. This AM I ~~tried to~~ attempted to get into some forested areas at the edge of crater floor to look for bugs. Driving from the main highway towards the Hotel Turistico the road bends to the left at the hotel, then right, and soon a dirt road branches off to the right which leads SE from the hotel along a small river. The local canyon walls have all been cleared for agriculture or habitation, while parts of the river itself have been leveled and channeled to good use. Continuing along the dirt road to a point ~1 km SE of the Hotel Turistico where the road crosses a ridge at ~760 M. I found a forest-covered hillside leading up from the

Hanken, James 1975

Journal

Pension Chiriqui, El Valle de Anton,
Coclé Province, Panama

26 August road. The forest was fairly mature with an almost complete canopy and dense understory of palms, vines, and tree ferns, but I followed a path leading up the hillside. ~~Fallen~~ Fallen, rotting logs were abundant ~~but~~ and but contained no salamanders. I did uncover a small gecko (P80) inside one rotten log 1½'×1½'×15', and a small snake (P81) inside another 1'×1'×8', both at 780 m. elev. Temp. inside the latter log was 20.5°C. I worked this forest for ~1 hour, then returned to my car ~1 km down the road, stopping to examine several banana plants for sals, and also taking another foot path through mature forest to the stream B right near my car. No other herps were seen.

27 August 8AM Yesterday afternoon I visited the area ~~to~~ above and to the N of the crater known as La Mesa. ~~It consists of rolling countryside at an elevation of 8~~ As far as I could tell it consists of rolling ~~and~~ countryside at an elevation of 850-950 m. This formerly was a coffee farm along the road up from El Valle, but apparently the ~~—~~ coffee was

Hawkes, James
1975

Journal

Pension Panama, El Valle de Anton, Cocle Province, Panama

27 August too rocky and wouldn't allow a profitable venture. The conditions are evidently appropriate for raising chickens, though, for there is at least one large commercial chicken business with several large coops along the road. There appear to be large expanses of original forest away from the road but the problem is of accessibility, as the more accessible areas are under cultivation. I traveled only 2-3 km along the road from El Valle but was able to get into some good forest owned by the chicken company which seem interested only in cutting enough to large coops. I have no detailed map of the area, and good landmarks for mileage records are lacking, so I have estimated this locality as ~2 km N (by air) El Valle de Anton, lying by road ~3-4 km from the Church in El Valle. The understory was quite dense with abundant ferns, palms, vines, + low bushes, and while numerous, crowded, mature trees they were scattered offering only incomplete cover, suggesting that this may be old second growth forest or at least partly thinned. A few bromeliads were present growing on logs on the ground, battling

Hawken(?), James
1975

Journal

Pension Giovanni, El Valle de Anton, Cocle Province, Panama

27 August collected. Three small hylids (P93-5) ~~[illegible]~~ had a short ascending figure for a call. A small toad (P96-7), ~~[illegible]~~ possibly the same species as P85 from Bugaba(?), Chiriqui Province, had a short, descending, low pitched call. The third species found (P98) ~~could not be associated with a~~ ~~[illegible]~~ was not heard calling although another short trill or one note was being given around the lawn.

I made the acquaintance yesterday of a Sr. Mattadin(?), a retired parasitologist who used to work for the US Army in the Canal Zone and now lives in El Valle. He ~~[illegible]~~ ~~[illegible]~~ collaborated on a book called the "Ectoparasites of Panama" based upon his several years of travel and collecting all over Panama. He is familiar with several of the high-altitude areas in western Panama where I've been looking for salamanders, and ~~despite the knowledge of the animals~~ which I showed him yesterday was the first he'd ever seen. This is ~~[illegible]~~ despite the fact that he often turns rocks and logs when collecting his animals, and his familiarity with lizards, snakes, and turtles. He told

Hanken, James 1975

Journal

Pension Chiriquana, El Valle de Anton, Cocle Province, Panama

27 August [illegible] of [illegible] finding snakes + lizards under rocks, but never salamanders. Apparently they are truly rare.

Hotel Bellavista, Panama City, Panama Province, Panama

28 August Color notes -

PRC-7: [illegible] dorsum with paired dorsal dark blotches near the rump and dark bands on the hind limbs, ground color of forelimbs lighter w/ a dark band on forearm and on elbow; venter grey w/ dark spots on limbs and groin, throat dark w/ median white stripe from jaw to pectoral girdle

P99: Brownish dorsum, w/ longitudinal wide dorsal band lighter than dark sides; limbs irregularly banded light + dark; light lateral stripe beginning just dorsal to insertion of forelimb continuing to groin w/ a 2nd stripe dorsal to the first beginning 1/4 of the way back from front to hind limbs, also leading to groin; venter of trunk pale w/ grayish flecks on throat; bright yellow color in "back of knees" and anterodorsal part of rear limb insertion

Hanken, James 1975

Journal

Hotel Bellavista, Panama City, Panama Province, Panama

28 August P100-103: similar to P ~~[illegible]~~ 99, but banding on hind limbs more distinct, no yellow coloration, and love lateral stripe continuous anterior to forefoot, culminating in upper jaw stripe
P99-5: dorsum dark olive green w/ 2 dorsolateral longitudinal stripes from behind eyes to hind limb ~~[illegible]~~ insertion and a third dorsomedian, darker, median stripe from snout; two stripes from snout to to anterior corner of eye; venter pale, darker on limbs, yellow throat & vocal sac continuing laterally to hind limbs; pupils dark
P107-8: dark darkish dorsal coloration with ~~[illegible]~~ slightly lighter green stripes on hind limbs; venter pale w/ yellowish green suffusion of color; throat w/ faint light speckling; faint, sometimes incomplete jaw stripe, and incomplete light median stripe on throat

4PM Yesterday AM before leaving El Valle de Anton followed Dr. McFadden's directions to a swift flowing stream at the edge of the ~~w~~ valley floor ~1 km (by air) SW of the Hotel ~~to~~ Greco. He attests to having collected numerous gold frogs "sapo de oro" ~~and~~ there in the past. I worked the stream

which rather gradually descends ~~for~~ down the canyon wall. Before, lasts for a distance of ~~[illegible]~~ ~150 m ~~to~~ at ~1630 m. elev. The stream ~~bo~~ bed is ~8-10' wide though the stream itself is only 4-5' wide and a few inches deep. The canyon walls ascend steeply on either side and are densely ~~covered~~ overgrown with bushes, thickets, ferns, and some trees. ~~I f~~ The only frogs which I found associated with the stream were #'s P97-106 which were found abundant among the rocks at streamside (often jumping into the stream at my approach). I found only a few rocks so might have missed other frogs hiding, but Dr. Mattandan says that the gold frogs are conspicuous when present. Returning from the stream I found a different species (P107) along the path up the stream canyon ~~to~~ wall. ~~Leave~~

Leaving El Valle I continued to Cerro Campana where I again checked likely spots for salamanders above the Motel Su Lin (including the vicinity of the large water tank). No sals were found during the ~3 hours of search, though ~~of~~ a frog (P108)

Hanken, James
1975

Journal

Hotel Bellavista, Panama City, Panama
Province Panama

28 August apparently of the same species as the ~~frog~~ last
frog taken at El Valle was found along
the road at the edge of the forest
I returned to Panama City at ~7 PM,
and after a day-trip to Barro Colorado Is.
tomorrow I return to the ~~[illegible]~~ States on Saturday

Hanken, James 1975

Journal

Pension Volcan, El ~~Volcan~~ Hato del ~~Hato~~ Volcan, Chiriqui Province, Panama

20 August

Panama birds

sp. date + locality 1st sighted

Cyanerpes cyaneus - blue honeycreeper ; Cerro Campana 8 August
Tiaris olivacea - olive grasquit ; " "
Thryothorus modestus - modest wren ; " "
Turdus assimilis - white-throated robin ; " "
Pygochelidon cyanoleuca - blue + white swallow ; " "
Amazilia edward - white-bellied hummingbird ; " "
Leptotila verrauxi - white-fronted dove ; " "
Zonotrichia capensis - andean sparrow ; {Volcan Chiriqui; Boquete area} ; 10 August
Myioborus torquatus - collared redstart ; " "
Vermivora gutturalis - flame-throated warbler ; " "
Turdus nigrescens - sooty robin ; " "
Diglossa baritula - cinnamon flower piercer ; " "
Pezopetes capitalis - big-footed sparrow ; " "
Cathartes aura - turkey vulture ; ?
Buteo jamaicensis - red-tailed hawk ; ?
Melanerpes formicivorus - acorn woodpecker ; Volcan Chiriqui ; 10 Aug
Columba fasciata - band-tailed pigeon ; " "
Stelgidopteryx ruficollis - rough-winged swallow ; " "
Basileuterus culicivorus - golden-crowned warbler ; " "
Spinus psaltria - lesser goldfinch ; " "
Atlapetes brunneinucha - chestnut-capped brush finch ; Boquete area ; 10 August
Chlorospingus pileatus - sooty-capped bush tanager ; Cerro Punta, 11 Aug
Elanus leucurus - white-tailed kite ; ?

Hanken, James 1975

Journal

Pension Volcan, El ~~Volcan~~ Hato del ~~Hato~~ Volcan, Chiriqui Province, Panama

20 August

Panama birds

sp. date + locality 1st sighted

Milvago chimachima - yellow-headed caracara; ?
Ptilogonys caudatus - long-tailed ptilogonys; Volcan Chiriqui; 19 Aug
Pelecanus occidentalis - brown pelican; Panama City?
Coragyps atratus - black vulture; Cerro Campana
Pitangus sulphuratus - great Kiskadee; ?
Ramphocelus passerinii - scarlet-rumped tanager; ??
Pselliophorus tibialis - yellow-thighed finch; Cerro Punta
Junco vulcani - volcano junco; Volcan Chiriqui, 18 August
Dendrocopus villosus - hairy woodpecker; " "
Icterus prosthemelas - black-cowled oriole; Volcan Chiriqui, 19 August
Troglodytes ochraceus - ochraceous wren; Cerro Punta, 20 August
Myiozetetes similis - social flycatcher; ?
Muscivora tyrannus - fork-tailed flycatcher; ? 11 August
Cassidix mexicanus - boat-tailed grackle; ?
Columbina talpacoti - ruddy ground dove, Volcan, 21 August
Crotophaga sulcirostris - groove-billed ani; ?
crepuscula, El Valle, 20 Aug

Hydromantes trip
Central Sierra Nevada

3 - 5 October 1975

Hanken, James
1975

Journal

~~Grouse~~ Hydromantes trip to ~~Smith Lake~~ + Sonora Pass
Grouse ~~Wright's~~ Lake, Desolation Wilderness Area, Eldorado National Forest, Eldorado Co, California, ~~7000~~ *8120' elev

3 October Left Berkeley with Andy Meisler at ~9AM. After calling a Fish + Game Warden in Placerville to ~~indicate~~ tell him that I was up to collect *Hydromantes* in this area this weekend, we continued on to the main campground area at Wright's Lake (~7000' elev). We waited for the park ranger to register between (1-2PM) and then headed up the trail towards Grouse Lake. The area around and above Wright's Lake is vegetated by montane forest dominated by *Pinus ponderosa*, *Pinus murrayana*, and red fir (*Abies magnifica*) interspersed with large granite outcrops. Parts of the trail pass through extensive granite "fields" with few trees. The area excluding the lakes is extremely dry, the only visible water being the stream draining into Grouse Lake and continuing down to Wright's - there is no evidence of ~~a~~ any recent rain. Weather reports yesterday predicted rain for this area tonight, but this morning's reports included only extreme N California in raining areas. We arrived at Grouse Lake at ~4PM.

4 October Last night I investigated a wet area along the trail to Smith Lake just above Grouse Lake. Here ~~a~~ the stream draining Hemlock Lake into Grouse

Hanken, James 1975

Journal

Hydromantes trip to Smith Lake & Sonora Pass

Grouse Lake, Desolation Wilderness Area, Eldorado National Forest, Eldorado Co., California, 8120' elev

4 October Lake ~~s~~ meanders across a flat stretch and has partially flooded the area leaving small pools (from ~~1 to~~ 2 to 5' across) interspersed among granite boulders and patches of dry ground. Late yesterday afternoon a frog skeleton had been found inside one of the pools and last night I found an adult Rana muscosa in ~~a~~ another pool (# 176). Several large tadpoles (presumably Rana) were also seen in the ~~water~~ pools but couldn't be collected. Returning to ~~the~~ Grouse Lake I walked along the banks and saw three additional Rana, collecting one. No Rana were heard calling at anytime. Earlier in the day a Hyla was heard calling occasionally from the rocks surrounding the lake. This morning Andy and I walked up to Smith Lake. ~~Along~~ As one reaches Smith Lake the forest thins out slightly until a point just above Smith Lake where timberline is found and trees drop out entirely, leaving only ~~so to~~ granite outcrops. Along the N bank of Smith Lake is a thin stand of red fir, while along the ridge at the W bank is mostly stunted mountain hemlock (Tsuga mertensiana). All but the W bank of the lake is surrounded by steep slopes of granite, however active seeps were found

Hanken, James 1975

Journal

Hydromantes trip to Smith Lake + Sonora Pass

Grouse Lake, Desolation Wilderness Area, Eldorado

4 October National Forest, Eldorado Co, Calif, 8120' elev

only at the E end where there was a slight ~~to~~ trickle of water emerging from a crack in a high cliff. At the base of this vertical outcrop two adult Hydromantes platycephalus were found, both in association with the water from the seep. One sal was found by peeling away moss growing along the base, the other by lifting away a small, thin, rock flake. The granite ~~was~~ outcrops took two forms: the first in the form of large, ~~smooth~~ expansive, granite "shelfs"; the other, ~~slopes~~ slopes of granite talus either shallow with ~~gro~~ ground visible beneath, or thick with no ground visible. The adult Hydromantes were found in the first situation, while two juvenile were found in a shallow talus area below a small stone ~ 8"×4"×2". The stone was resting on E earth which was relatively dry, although the relative ~~abun~~ abundance of ~~plants~~ grasses and moss in the area indicated that this is a relatively wet area compared to other banks. Both sites for all four salamanders were 100-150' above the level of the lake. The other banks bordering the lake was worked for Hydromantes, but there were no other active seeps found, nor Hydromantes. The stream draining Smith Lake ~~was~~ runs over

Hanken, James 1975

Journal

Hydromantes trip to Smith Lake + Sonora Pass

Grouse Lake, Desolation Wilderness Area, Eldorado National Forest, Eldorado Co, Calif, 8120' elev.

4 October a smooth granite shelf just below the lake and this area was worked as well, but with no success. There was no snow visible any longer on the cliffs above Smith Lake and this probably explains the lack of any active seeps. The ~~neighboring~~ visible parts of the remaining Crystal Range seem identical in morphology to the Smith Lake and it is assumed that in more favorable times of the year (i.e. soon after snowmelt) Hydromantes ~~was~~ legit to could be found active throughout this region. Returning to Wright's Lake I examined similarly-appearing cliffs bordering Hemlock Lake, but these too were dry and had no salamanders.

Sonora Pass, Stanislaus National Forest, Tuolomne Co, Calif, 9600' elev.

5 October Yesterday afternoon Andy Meisler and I returned to our car at Wright's Lake and, after a short visit to Stateline, Nev, drove to Leavitt ~~Mdw~~ Station Campground, Toiyabe National Forest, Mono Co, 7200' elev, where we spent the night. This AM we continued W towards Sonora Pass first stopping ~~to~~ at a couple springs to look for salamanders on the E slope of the Sierras. The first spring is ~0.4 miles in from State Route 108 on the road towards Leavitt Lake,

Hanken, James

1975

Journal

Hydromantes trip to Smith Lake + Sonora Pass
Sonora Pass, Stanislaus National Forest, Tuolumne Co, Calif, 9600' elev.

5 October elev. 8560'. The spring is found on a SE-facing slope N of the dirt road in a shallow canyon with steep walls only ~~at the bottom~~ along the canyon bottom. The surrounding slopes are vegetated with sagebrush-scrub vegetation, with occasional pine trees and even small patches of pine forest. While there wasn't a real flow from the spring down the ravine there were small pools of water in shaded areas, and often moist, mossy areas below large overhanging rocks at the ~~edge~~ base of the banks. The ravine was worked for salamanders by turning rocks for over an hour, but no animals found. This area, though, should be checked again at a more favorable time of year. The second spring was found along State Route 108 at an approx elev of 9040' E of Sonora Pass, and gave rise to a small stream passing beneath the road. This area is in pine forest. Rocks were turned along the stream below the ~~sp~~ spring for ~ 75 yds, but no salamanders were found. Continuing on to Sonora Pass we worked the steep slope along Route 108 just above the 9000' elev. sign (E of the highway) ~~on the~~ W ~~side~~ of the pass. Ted Papenfuss has found Hydromantes here in relative abundance in the past. However, ~~this~~ at this date there is no snow visible higher up on

Hanken
James
1975

Journal

<u>Hydromantes trip to Smith Lake + Sonora Pass</u>
<u>Sonora Pass, Stanislaus National Forest, Tuolumne Co, Calif, 9600' elev.</u>

5 October the slopes and the only visible water is a small stream flowing down to ~~Dead~~ Deadman Creek beside the road. I turned rocks in the splash zone of this stream but found no *Hydromantes*. ~~Altho~~ There were a few, small isolated patches of melting snow still evident high-up on nearby slopes, and I then turned my attention to ~~on~~ the most easily accessible one ~~to~~ on ~~on~~ the slope S of the highway W of Blue Canyon. I hiked up the talus slope several hundred feet to the area of melting snow, which was more a dome of ice which had been hollowed out ~~for~~ by melting ice from below. I ~~worked~~ turned moist rocks just below the ice and flaked away ~~gr~~ granite slabs along the small stream ~~the~~ below, but here, too, found no *Hydromantes*. Andy and I left to return to Berkeley at around 2PM, returning at ~5PM.

Bolitoglossa compacta
MVZ

24 October 1975

Hanken,
James
1975

Journal

<u>Museum of Vertebrate Zoology, UC Berkeley, Berkeley, California</u>

24 October 4:35 PM At 4:15 PM I went into the cold room off of the herp. lab to clean the trays ~~and~~ of the Panama salamanders. The lone <u>B. compacta</u> was found on top of a "crumpled-up" moistened paper towel which was on a flat paper towel lining the bottom of the tray. Between the ♀ sal and the paper towel was an irregularly-shaped cluster of eggs centered about her vent; i.e. she had recently laid these eggs and seemed to be still laying more. I found Sam Sweet and Kay Yanev, and Sam and I photographed the ~~♀~~ sal and eggs. The salamander didn't move while it was being carried about in the tray, nor when it ~~♀~~, together with its paper towels, was transferred to another tray. After photographing it, we placed some moist towels ~~and~~ over the sal and eggs and returned it to the cold room. An accurate egg count was difficult because of the clustered arrangement, but Sam counted ~20. ~~They appeared to have been laid singly~~

Journal

1976

Mexico
Arizona
White Mtns., Mono Co.

Mexico trips

29 January - 18 February 1976
6 - 26 July 1976 (beg. Texas)
6 August 1976 Arizona

Hanken, James

1976

Journal

Hotel "Pepsi", Fortin, Est. Veracruz, Mexico

29 Jan 11:30 PM - Arrived here a short while ago with my companion Brad ~~Sc~~ Shaffer after leaving Mexico City earlier today. We arrived in Mexico yesterday PM after an uneventful Western Air Lines flight from San Francisco to Los Angeles. After renting a Datsun 1600 from Avis we joined the masses and made our way into Mexico City where we found a reasonably priced hotel just off the Avenida Insurgentes, the Hotel El Paraiso. This morning we arose, breakfasted, cashed ~~to~~ travelers checks, and set out in search of of liquid nitrogen. The sources given to me in ~~E~~ San Francisco by Union Carbide proved incorrect and we spent 3-4 hours driving through various parts of Mexico City until we located a source at Aigon, S.A. located in Naucalpan de Juarez just outside of Mexico City. The nitrogen was quite reasonably priced at 7 pesos/kilo. We left Mexico City at ~1:30 PM on Mex Hwy 150 bound for Puebla (the non-toll road). After ascending into the mountains W of Mexico City we decided to stop and visit ~~a~~ part of the extensive pine forest traversed by the road. The exact locality was just

Hawken, James 1976

Journal

Hotel "Pepsi", Fortin, Est. Veracruz, Mexico

29 Jan S of the Mex Hwy 150, 9.5 Km W (by road) of the centrally located church in Rio Frio, Est. Mexico, and 1.8 Km W (by road) of the cleared area with a few buildings and church indicating Parque Nacional Zoquiapan. This area was primarily of pines with a few scattered oaks. Some evidence of logging in the past was seen in the form of isolated chopped tree trunks, and some fallen logs were charred. There was little understory adjacent to the road, but as one progressed up the hill S of the road a thick bunch grass cover was conspicuous. ~~Brad and I worked~~ No bromeliads were evident here but others had been seen abundant in the pine forest fringing the road at lower elevations to the West. Brad and I worked the area for ~ 1½ hrs. turning logs + rocks, peeling bark, etc. Six Sceloporus were found (M2789-M2794) all inactive under bark on fallen logs, and Brad found two ~~Ba~~ ~~Gerrhonotus~~ Barisia under a log. The Barisia shows a strong resemblance to Gerrhonotus coeruleus with the ~~wh~~ white vertical barring laterally and longitudinal ventral dark striping. Most interesting of all was a salamander

Hanken, James 1975

Journal

Hotel "Pepsi", Fortin, Est. Veracruz, Mexico

29 Jan found by Brad under the first log which he turned, ~~uside~~ and at the base of a small depression. It is a small (~2cm S.V) possibly Parvimolge with pointed toes and robust habitus. It's tail broke off while being collected but was ~~pre~~ preserved. The cavity where it was found was quite moist, as were other microhabitats under other logs and under bark, but no other salamanders were found. We left the locality at ~3:30PM The skies ~~had~~ had been clear earlier in the day but were getting increasingly cloudy over this locality and ~~to the~~ in the mountains to the SW, and we even had a few drops of rain fall as we approached Puebla later in the afternoon. We ate dinner in ~~Puebla~~ Puebla and after continued on to Fortin.

Casa de Miguel Ceron, Cuatlalpan, Est Veracruz, Mexico

31 Jan 8:00 AM - Brad Shaffer and I slept here last night after ~~eating~~ ~~one~~ we were invited here for dinner last night and arranged our next few days' plans with Carlos Ceron. ~~We~~ ~~Caxarana~~ Carlos will accompany us to the top of Cerro Chicahuaxtla today, Xometla and Orizaba tomorrow, and Puerto del

Hauken, James 1976

Journal

Casa de Miguel Ceron, Cuatlalpan, Est Veracruz, Mexico

31 Jan Orient Lagunas San Bernardino the next day. Yesterday AM we breakfasted in Fortin and while looking for the ice house, stopped to ask a local worker if he knew of salamanders. This was ~1.1 km W of Fortin on the Avenida 1 Poniente. He ~~was~~ knew of ~~sala~~ salamanders (called "chaconotes") and said there were many around. We all turned logs and rocks alongside the road at this point which is next to a very modern house and adjacent banana field. We found one Bolitoglossa platydactyla under a cement slab which was part of a walkway to the house in about 20 minutes of searching. We left this locality to go to Carlos' house but returned later before dark and this time turned those same rocks and logs again and worked the banana field. In approximately 1½ hours of working we found three snakes under small rocks along the fence (all with dark grey bodies with an orangish neck band) as well as two Eleutherodactylus under cement slabs. In the banana field we found one Scelophorus under a rock and one B. rufescens by peeling back banana leaves. We arrived at Carlos' house at ~1:30 PM and found neither he nor Miguel

Hawken, James 1976

Journal

Casa de Miguel Ceron, Coatzalpan, Est. Veracruz, Mexico

31 Jan home. We then set out for the Casa de Senor. We got lost on the way but wound up at the nearby Casa de Victor Ceron, part way up on Cerro Chicahuaxtla ~~Ech~~ This casa and associated cafetale lies on the steep N slope of the Cerro. We were given permission to ~~the~~ work the property for herps, and in the next ~3 hours worked the fields planted to coffee with banana trees for shade and a few orange trees. Above the coffee is more natural forest with some add'l banana trees. ~~Ro~~ Inside rotting logs was very moist as was the inside of banana trees and under rocks in the shade. In all we found ~~tw~~ ten Lineatriton lineola all under rocks, three Thorius, two under rocks and one in the litter at the base of bananas, and seven Bolitoglossa rufescens (all but one in banana leaf axils, the other in a fallen banana trunk) Five banded snakes were found (Ninia according to Carlos), all under small rocks primarily in the slightly ~~relatively~~ drier ~~or~~ exposed areas above and below the banana-coffee field. One add'l snake with a spined-tail, ~~and~~ yellow neck ring, and red venter was found in ~~a~~ a similar situation. One Anolis was found active in the bananas. We were helped in our search by

Hanken, James 1976

Journal

Casa de Carlos Ceron, Cuatlalpan, Est. Veracruz, Mexico

31 Jan Victor Ceron and a small boy (Victor's son?) Elevational range was 980-1060 m (with Carlos' house at an elevation of 980 m.)

31 Jan ~9PM Brad Shaffer and I were accompanied today by Carlos Ceron who guided us to the summit of Cerro Chicahuaxtla. ~~in sea~~ We walked at a steady clip and reached the summit forest within 1½ hours. What I am calling summit forest is met at elevations >1500 m. and was recognized by a rather quick change from drier, shorter, presumably second-growth forest to a more mature, taller forest with ~~a~~ abundant bromeliads in tall trees although still with evidence of previous ~~cultiva~~ disturbance. Bromeliads are abundant, ~~ex~~ especially at heights >20' above the ground. However, during the ensuing two hours during which we examined several rotting logs, rocks and ~~ca~~ >100 bromeliads we found only one *Pseudoeurycea nigromaculata* (in a bromeliad), one *Thorius*, and one *Parvimolge* (neither Brad nor I have had experience ~~doing~~ distinguishing *Parvimolge* from *Thorius*, and I have given the name " " to the individual which is more robust, and has ~~obl~~ obviously larger limbs and feet, in this case M2381. It also has a

Hanken, James 1976

Journal

Casa de Miguel Ceron, Cuatlalpan, Est Veracruz, Mexico

31 Jan ~~1976~~ (cont'd) distinguishing markings of ~~white spots~~ on a black ventral ground color with white flecking on the chin and lower sides. Dorsal coloration was a non-descript brown. It was found by Brad under a moss-covered piece of bark on a dead log ~4' above the ground. The other specimen, (JH2832, presumably Thorius was found ~~on~~ inside a rotting log). We then decided to return down the mountain on the assurance of Carlos that he knew of places with more Thorius. We then worked a large area both on the lower slopes of Cerro Chicahuaxtla and across the ravine to the N in the area about the house of Victor Solano and Casa de Senon. We concentrated primarily in disturbed areas grown to coffee with bananas for shade and often orange trees at elevations ranging from 1000-1150 m. In these 2½ ~~-3~~ 3 hours we found 3 Lineatriton lineola (under rocks), 10 Bolitoglossa rufescens (9 in banana leaf axils, one found by me in a rotting log in a cut-over area now grown to thickets at 1150 m.) and Carlos found one Thorius under a rock at 1100 m. No snakes, lizards, or adult frogs were seen today by anyone.

Hanken, James 1976

Journal

~~Casa~~ Casa de Miguel Ceron, Cuautlapan, Est Veracruz, Mexico

21 February Yesterday Brad and I were accompanied by Carlos Ceron ~~to two general~~ and his nephew René to two general localities located near the Puebla-Veracruz border, Puerto del Aire and near Lagunas San Bernardino. We had originally planned to go to Xometla, but three hours of rain the night before last ~~a~~ made it seem reasonable to wait an extra day ~~to~~ in the hopes that the road to Xometla would be drier. This rain was most unexpected, as we thought this was the dry season. However, ~~many~~ working the areas in this general ~~are~~ vicinity so far indicate that rain is not common but much moisture is contributed by fog drip. The first locality visited was ~12 km E of San Felipe on the road to the short-wave station (Micro Ondas). ~~to~~ Carlos stated that there is another road from San Felipe towards Lagunas San Bernardino but that ~~John to~~ neither John Wright nor Roy McDiarmid had ever gone on it (~~they~~ their locality info. indicates that they went on the road to Lagunas). In any event, when we reached San Felipe we made a left turn at a small store on the left onto the road to the Micro Ondas. San Felipe is located at the dry edge of the plateau and, although the air was quite foggy, we could see

Hanken, James 1976

Journal

Casa de Miguel Ceron, Cuatlalpan, Est. Veracruz, Mexico

2 February from the ~~xx~~ xeric-adapted vegetation (yucca + desert-like shrubs) and the dry ground that this area receives little vegetation. From San Felipe the road climbs to the E entering hills covered with a pine-shrub forest, although still quite dry. Continuing ~~xx~~ E the forest becomes denser with mixed pine + oak and moss on fallen trunks. Our first locality was at a clearing ~12 Km along the road from San Felipe with fields cleared and planted to potatoes and others used for cattle grazing. ~~The Edx~~ Steep slopes formed a canyon and were covered with mixed pine and chaparral. A heavy fog made the exposed surfaces wet but most logs and rocks were dry underneath. However, a few logs, ~~and~~ rocks, and wood chips were moist underneath and here salamanders were found. In total 38 Thorius and 11 Pseudoeurycea were found, often together under the same log. Some were also found under logs in the canyon bottom under pine trees which contributed much fog drip. Four Sceloporus were also found under bark in stumps. Returning towards San Felipe we stopped at a more mesic area in pine-oak forest to work the forest and road bank. ~~8~~ 36 Thorius were taken in ~45 min., all from under bark on

Hauken, James 1976

Journal

Casa de Miguel Ceron, Cuatlalpan, Est. Veracruz, Mexico

2 Feb fallen logs, under logs, or in the road bank. No bromeliads were found at this locality, but Brad had worked bromeliads for ~1 hour at the first locality without success. We returned to Mex Hwy 150 and on to Puerto del Aire where we took the dirt road S from the highway. The whole area was ~~most~~ enshrouded in thick fog the whole time and I ~~could~~ can't make many observations about the area. Our first stop was ~~at~~ 3.2 km (by rd.) from the main highway where the forest has been partially cleared for agriculture and homes ~~but~~ *We found a wooded hillside with trees with bromeliads. As it was extremely cold and wet from fog we worked here for only ~1 hr. but found 41 _Thorius_, all under rocks or logs. Despite working many bromeliads, only one was found to contain a herp, one _Abronia_. ~~then~~ We returned to the main hwy but stopped 0.8 km before it to work another wooded slope of pine-oak. This is obviously a popular spot with herpetologists as there were few bromeliads within reach in trees and several lying torn open on the ground. Despite the fog the forest was noticeably drier than the previous locality and no ~~t~~ salamanders were found. Carlos, though, caught five _Abronia_

Hanken, James 1976

Journal

Casa de Miguel Ceron, Cuatlalpan, Est. Veracruz, Mexico

2 Feb in bromeliads, including three found in one bromeliad. We left this locality and returned to Cuatlalpan.

Hotel ~~Mayorga~~ Mayorga, Fortin, Est. Veracruz, Mexico

3 February ~~Becq~~ Because of our getting a late start yesterday morning due to repair of a ~~muf~~ broken muffler, and the bad condition of the road to Xometla, Carlos decided to lead Brad and I to a different area W of Xometla at an approximately equal altitude. We took Mex Hwy 150 W of Orizaba and then took a dirt road off to the right 15.0 Km W (by rd) of the junction of the ~~hw~~ highway to Maltrata. This road apparently forms the main axis of a series of dirt roads which criss-cross the dry, mostly cleared slopes SW of Pico de Orizaba and meanders in a ~~NW~~ NE direction passing through a series of towns. The road is quite passable in a stock vehicle, apparently having been made by heavy machinery. We visited two localities, the first a patch of uncleared pine-oak forest ~~locale~~ surrounded by cleared fields. It is off the main ~~p~~ road, but is located only 1.5 km W (by road) from the town of Texmola. This forest was quite dry on the surface, but we soon found (#53) Thorius abundant under bark on ~~fallen~~

Hanken, James 1976

Journal

3 Feb

Hotel Mazorga, Fortin, Est. Veracruz, Mexico

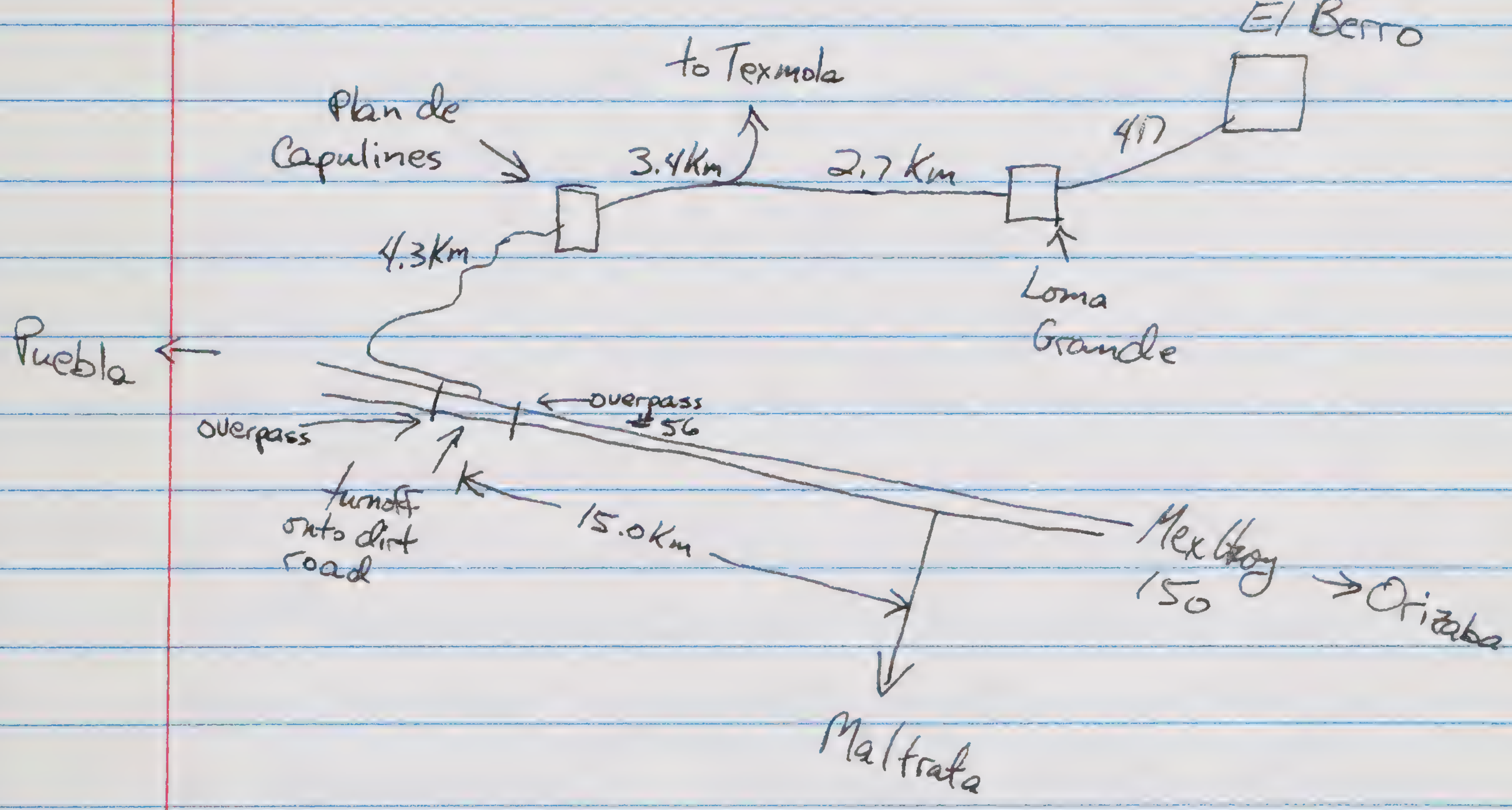
stumps, under large fallen logs, and under leaf ~~lit~~ litter, especially in piles of wood chips. Three small *Pseudoeurycea* were found with a generally reddish ground color with grayish wavings laterally. They were found under bark, often with *Thorius*. We left this locality and visited the town of El Berro (to the SE?? - we have no compass). ~~Then~~ We walked to a canyon ~1 km SE of El Berro which is mostly cleared for agriculture with few clumps of pine-chaparral forest remaining. The sun was shining, & the temperature warm, ~~and~~ the ground dry, and we expected no salamanders. However, on the N facing ~~slop~~ canyon wall with remnants of moist pine-oak forest we found 50 *Thorius* distributed under logs, under bark on stumps, and abundant ~~in~~ in piles of wood shavings. Five *Pseudoeurycea* were also found under bark, four resembling those at the Texmola locality, and one tiny one ~~an~~ ~~apparently~~ *P. belli*-like. The *Thorius* are apparently of two kinds as at Texmola: one large, often black type with big feet + limbs, and a smaller *T. pennatulus*-like form. ~~Bx~~ 24 *Hyla-regilla*-like frogs were found under logs on the exposed canyon bottom, and eight *Sceloporus* of at least two

Hauken, James 1976

Journal

Hotel Mayorga, Fortin, Est. Veracruz, Mexico

3 February Different Anids were found ~~under~~ under bark or in road banks. Upon leaving El Berro we were confronted with a rain-sleet storm which further changed our views about the dry season.



Hanken, James 1976

Journal

Hotel Berthangel, Catemaco, Est. Veracruz, Mexico

4 February 9:30 PM ~~Th~~ Brad Shaffer and I arrived in Catemaco last night at ~6 PM after a long day's drive from Fortin. In the morning we had returned to the locality in Fortin where ~~I~~ we had a few days earlier found a B. platydactyla under ~~an~~ a rock slab. We worked the adjacent cafetal, a very pleasant area of coffee trees and banana plants often shaded by tall, broad, vine-covered trees on a slope which faces SW towards Cerro Chicahuaxtla. The ground under shaded rocks and logs was damp. Three Lineatriton lineola were found under rocks and 2 B. rufescens in banana leaf axils. Brad also found one Bufo, one additional frog, and three more snakes with a yellow neck ring under small exposed rocks lining the main path through the cafetal. We left Fortin E on the non-toll road towards Cordoba looking for other likely spots to find B. platydactyla. We stopped 4.1 km E of Fortin to visit ~~the~~ a small clump of trees adjacent to the Las Palmas Motel. None were found here, nor in the yards of people living across the highway, although they assured us that there were many "tlaconetes" to be had in moister times. As we were leaving I flipped small rocks in an unshaded grassy ~~fie~~ field next to the road

Hauken, James 1976

Journal

<u>Hotel Berthangel, Catemaco, Est. Veracruz, México</u>

4 February ~~and~~ and found 2 <u>B. platydactyla</u> under one rock and one under another. Both rocks were in full sun but ~~warm~~ wet underneath. We ~~left~~ then continued on to Cordoba and visited two more potential localities as we ~~f~~ left the Cordoba area but were ~~un~~ unable to find more salamanders. We then continued to drop down into the low, dry coastal plain and continue on towards Catemaco. Upon reaching Catemaco we attempted to locate Willie Shaldah, our "sleazy but

4F useful" contact. This included a visit to the rather garish Motel ~~Bella~~ Playa Azul which lies outside Catemaco. Willie is not in town and we were referred to another american living here. His name is John Hailler and he lives behind the hospital at the W end of town. We spoke with him last night about ways of reaching the ~~to~~ volcano, and ~~after~~ he ~~to~~ ~~speaking~~ spoke with a friend involved in logging here who said the best way is to take either ~~the road to~~ of two roads leading around to the N side of the mountain and then hiking up ~~to~~ from there. We tried the road which leads NE from Catemaco and then to the coast, but this quickly drops to lowlands after reaching a high point of ~400m. just outside of Catemaco and, except for a ~~recent~~ biological

Hanken, James 1976

Journal

Hotel Berthangel, Catemaco, Est. Veracruz, Mexico

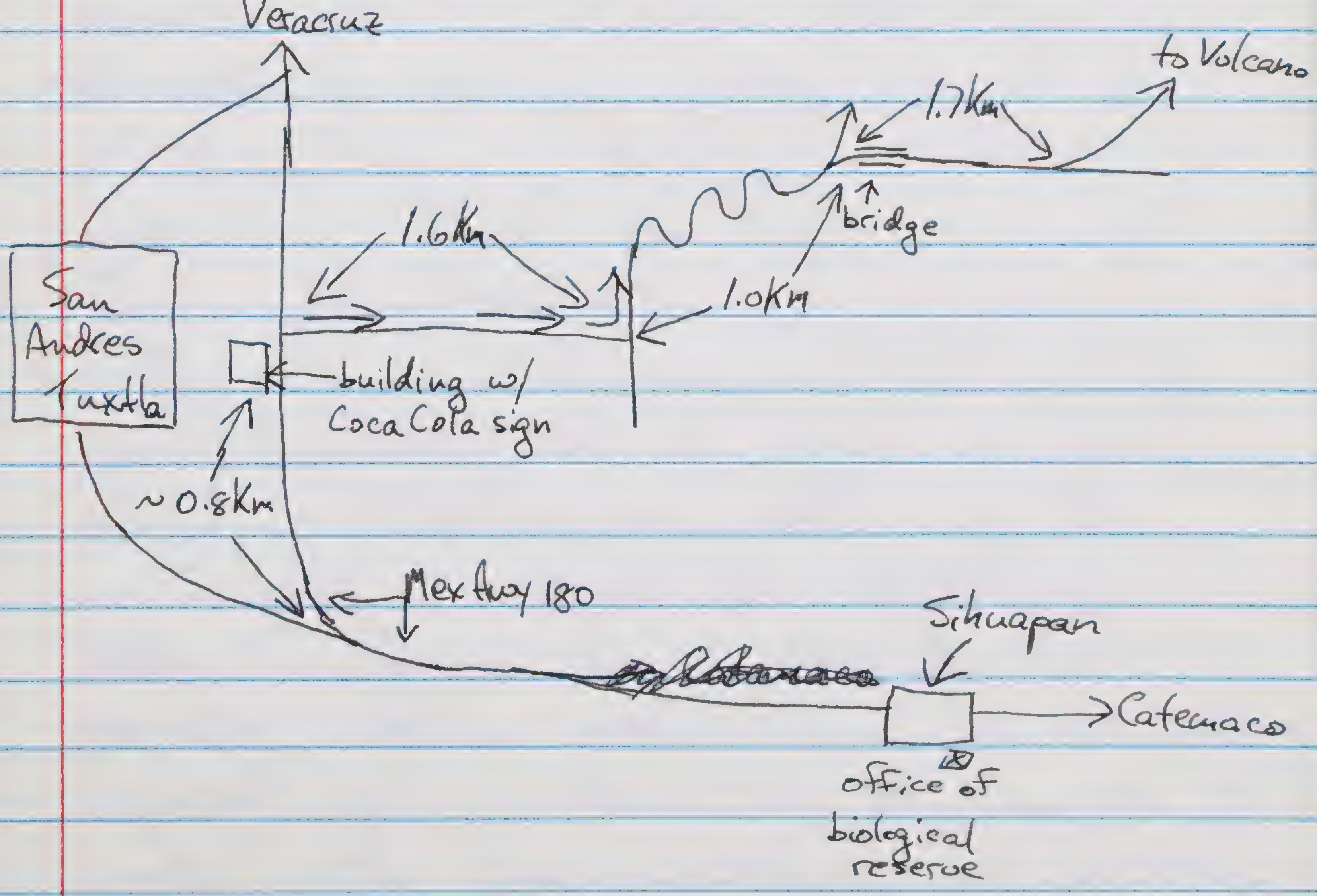
4 February (cont'd) reserve near the coast, is mostly cut over. ~~Ca~~ A worker at the reserve told us that there would be an ~~8~~ 8 hour walk to the crater from the coast and referred ~~us~~ to the head of the biological reserves located in an office along Mex Hwy 180 in Sihuapan (just W of Catemaco). We followed up this lead and were shown a road to the crater from San Andres Tuxtla (~5 hrs by foot) - we'll try this road tomorrow. All in all, this was a very frustrating day, with many hours wasted looking for roads ~~to~~ leading to the highlands. One high point though, was during a short excursion made this AM to the low hillocks NE of Catemaco in the hopes of finding vestiges of forest. The area is extremely dry and cut-over, with the only vestige found being steep slopes leading down to a large cove of the Laguna ~~Catema~~ Catemaco. However people living where we parked our car claimed to know of salamanders, and upon our return we all looked for some in their yards, and found one B. platydactyla under a pile of wood chips in their ~~pad~~ backyard. Further looking in the area turned up 2 B. rainus but no more salamanders. Apparently, these areas represent the few suitable for salamander activity in the dry season.

Hawken,
James
1976

Journal

Hotel Sacre, Tuxtepec, Est. Oaxaca, Mexico

7 February 8:30 AM Arrived here last night after a long drive from Catemaco, having left at ~3 PM. ~~We~~ Brad and I had spent most of the day catching-up on cataloguing and preserving specimens from recent days, including those obtained ~~on~~ the day before, 5 February, during ~~on~~ an excursion to Volcan San Martin. We followed the advice of Sr. Refugio Sedilyo, administrator of the tropical biology program headquartered in Sihuapan just W of Catemaco, and headed towards the S face of the volcano on a trail N out of San Andres Tuxtla. The road branches off of ~~the~~ Mex Hwy 180 between exits to San Andres Tuxtla:



Hanken
James
1976

Journal

<u>Hotel Sacro, Ciudad Tuxtepec, Est. Oaxaca, Mexico</u>

7 February 8:30 AM ~~We con~~ From where we left our car a jeep trail continues N to service the ~~e~~ extensive agricultural fields covering the gently rolling lower slopes, with only little vestiges of original forest. After 2-2½ hours of walking (~8-9 km) we entered a wooded knoll which turned out to represent the limit of clearing on the S flank. We immediately entered relatively untouched rain forest which was quite damp; leaf surfaces were not wet to the touch, but the litter layer was moist and rotting fallen logs moist and cool. ~~We worked the forest ~~ at ~930 m immediately after entering it. Bromeliads were not abundant but present and we worked several without success.~~ ~~We Six~~ *Pseudoeurycea werleri* was found at the beginning of the forest at ~~920~~ 890 m and ~~as far~~ up to ~~1100~~ 1200 m where we turned around. They were found commonly under ~~&~~ and inside rotting logs, and also ~~on~~ under bark on falling logs often several feet above the ground. We could not detect any increased tendency for arboreality as we continued up the mountain. ~~Thor~~ Six *Thorius* were found at the first locality between ~930-950 m. and one other slightly higher up the mountain. Some were found under rotten logs, and others under leaf litter,

Hanken, James 1976

Journal

Hotel Sarre, Ciudad Tuxtepec, Est. Oaxaca, Mexico

7 February especially under fallen bromeliads. They were definitely not easy to come by, as we spent much time looking in seemingly prime ~~bad~~ microhabitats. I was impressed with the nature of the forest where the Dicens was found, as it appeared to be a true lowland-type tropical rain forest: I had ~~only been~~ previously thought of them ~~as~~ in more temperate climes. The road which we took from the agricultural fields into the forest and up the mountain was a cattle trail leading to a watering tank along a stream at ~~the~~ 1060 m. One P. welleri was found under a rock beside the stream. Possibly this is the watering hole cited by Shannon + Werler as the locality for B. moreletti. We examined the area carefully but could find no other salamanders. Bromeliads ~~had not been~~ were not encountered in the forest after the locality at the lower edge of the forest, ~~At 1060 m. we came to the end of the cattle trail which we had followed through the forest. It ended at the edge of a stream~~ We continued on from the watering hole along a foot path ~~to a~~ through denser forest to a height of ~1200 m. at which point we decided to turn ~~arou~~ ~~a~~ around. P. welleri were still being found commonly. ~~In addition~~ Our return

Hawker
James
1976

Journal

Hotel Sacre, ~~R~~ Ciudad Tuxtepec, Est. Oaxaca, Mexico

7 February trip was made even more excitingly our losing our way causing us to ~~take~~ walk an extra ~~6-8~~ 8-10 km in the dark at night and not return to Catemaco until ~3:00 AM

As stated above, ~~g~~ most of yesterday was spent cataloguing specimens and traveling to Tuxtepec. ~~We~~ We worked some banana fields N of San~~t~~ Andres Tuxtla to no avail, and did pick up a DOR *Natrix* on Mex Hwy 145 towards Tuxtepec where the road runs next to the Laguna Alvarado.

Hanken, James 1976

Journal

Hotel Primavera, Oaxaca, Est Oaxaca, Mexico

7-10 February These four days were spent working the area clustered ~~a~~ about Cerro Pelon between Valle Nacional to the N and Ixtlan de Juarez to the S. Two nights were spent camping on the mountain and another in a rather sleazy hotel in Ixtlan and we thus had no opportunity for field notes or cataloging. 7+8 February were spent primarily on the N side of Cerro Pelon, working ~~[illegible]~~ forested areas on the relatively less steep ridges ~~and clear~~ Chiropterotriton were taken in bromeliads in several localities, often being quite abundant. Thorius was much less abundant, being found only once or twice in bromeliads (once with a Chiropterotriton) and only a bit more commonly on the ground. At least two morphs were readily distinguishable (see color notes). The N slope ~~[illegible]~~ contains cloud forest kept moist by winds from the N and we frequently walked in heavy rain or fog. This proved fortunate ~~as~~ as one night we worked a road bank 52 kms N Guelatao ~~for~~ with lantern and found several P. "bumpy" and one P. juarezi out in the light mist which was falling. The cloud forest is replaced by drier pine forest as one approaches the top of Cerro Pelon, and at an ~~[illegible]~~ locality intermediate between the two I had found a dwarf boa, apparently Exiloboa, ~~under a ro~~

Hauken, James 1976

Journal

Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

7-10 February The snake was found under an exposed rock in a small clearing by a small ~~ch~~ roadside chapel. ~~T~~ 9-10 February were spent working the pine forest on the N + S slope. *Thorius* were taken in greater numbers, but only with much hard work, as the forest was extremely dry and the salamanders found under bark on large, moist logs or deep inside other logs. Llano de las Flores was an exception, as over 100 ~~T~~ *Thorius* were taken in ~~the~~ ~1-1½ hours, including 37 found by me under one log. One *P. smithi* juvenile was found at the same locality under bark on a fallen log. After working this region we continued on to Oaxaca

Hanken, James
1976

Journal

Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

~~#~~11 February Today Brad and I worked several localities on Cerro San Felipe, all along the logging roads which leave from the main highway at La Cumbre.

#1 - 2.4 Km. ~~fr~~ from La Cumbre

-We worked this steep NE-facing slope covered with short loosely arranged oaks for ~1 hour with no success. Both the litter layer and under fallen logs were tinder dry, due no doubt in some part to the strong winds which blow across the hill from the N. Several bromeliads were pulled down, found to be wet, but with no luck.

#2 - logging camp 4 Kms. from La Cumbre

This pine-oak forest was more sheltered from wind than the last locality, and logs were moist inside and underneath. Several Thorius were found under bark and below wood chips and pieces of ~~stuff~~ ~~cut~~ split logs on the ground. A few juvenile P. smithi were found in a similar fashion, as were a few adults. One adult P. smithi was found under a small, relatively exposed rock.

#3 - 9.2 Kms from La Cumbre

We worked this ~~-~~ relatively sheltered ravine with a stream surfacing where it crosses the road, believing it to be the locality

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Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

12 February of Wake, Lynch, + Pag which is 9 km from La Cumbre. ~~We later~~ and has two species of Thorius sympatric. This latter locality proved to be ~0.5 km farther along the road, but we didn't work it. The ravine which we worked was almost all oak, with pines becoming ~~abund~~ dominant as one approached the ridges ~~on~~ on either side. Only a few Thorius, apparently of one morph, were taken.

#4 - 15 km from La Cumbre

-This is the revered P. smithi locality of Wake, etc. It has scattered, tall pines with abundant fallen logs. Although several logs were nearly dry, P. smithi proved to be abundant, especially under bark on large, fallen logs (One log I worked contained ~30-40 P. smithi) Juveniles were by far the most numerous. Thorius were found in slightly moister conditions under bark and logs, etc. Can the P. smithi be excluding Thorius because of their great numbers? Apparently, it's not absolute as in at least one or two instances Thorius was taken with juvenile P. smithi under the same log or bark. Brad also found one

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Journal

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12 February Sceloporus, one Thamnophis, and one Bairnia, all under rocks.

#5 - 12.4 km from La Cumbre

We wanted to work another locality between the above latter two, and chose this w-facing slope of second growth pine with some tall trees remaining and abundant fallen logs. In ~1½ hours 26 Thorius and 25 P. smithi were found, mostly under bark on fallen logs and stumps. I found two Bairnia, one under a log, and one under bark on a stump. These Thorius are apparently the same as those at the previous locality, although ~~are~~ seem different from those of the other localities closer to La Cumbre (see Thorius notes).

We then returned to Oaxaca

13 February Today we drove to the Thorius locality of Wake, ~~&~~ Lynch, + Papenfuss 19 km S of Sola de Vega along Mex Hwy 131. ~~You must~~ We had to drive through the extremely dry Oaxaca valley before ascending the high, pine-covered ridge S of Sola de Vega. This pine forest was ~~&~~ not as dense as those ~~encounte~~ encountered to the N, and also have many

Hanken, James 1976

Journal

Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

13 February deciduous trees colors bright autumn-like colors were conspicuous. We ~~walk~~ worked away at the road band ~~&~~ where Ted P. has ~~gotten~~ ~~T~~ found Thorius abundant, but found nothing. The forest itself was drier ~~than~~ any yet encountered, apparently the rain shadow effect increases as one ~~goe~~ continues S. We left the locality with only one Eumeces (found under an exposed rock) and no Thorius. Returning to Sola de Vega we stopped at a large rock outcrop to walk. Not even a lizard was seen here in about ~½ hour, and we continued on to Sola de Vega where we ate lunch along the river there. The river was found to contain tadpoles and we collected several (frozen and preserved) for Dick Sage.

en route to SF from LA, California, U.S.A.

14-18 February Brad Shaffer & I are now winging our way home to Berkeley after departing Mexico City this AM. The previous five days ~~had~~ were spent working our way N from Oaxaca City, hitting scattered Thorius localities in Northern Oaxaca, ~~&~~ southern Puebla, and central Veracruz, all in the Sierra Madre Orientale. Our schedule

Hanken, James 1976

Journal

en route to SF from LA, California, U.S.A.

14-18 February usually involved driving during night or early morning along the ~~central~~ western side of the mountains and making successive stabs to the high elevation pine or pine-oak forests via ~~log~~ usually good logging roads to small pueblos to these areas. The weather was generally good with sunny skies and warm temps during the days. Although the areas were generally dry, moist ~~habit~~ habitat for Thorius could generally be readily found in the form of N- or NE-facing wooded slopes with abundant cover. Thorius were ~~not~~ overly abundant, but a good series was usually obtained with a little work. Other salamander species, however, were conspicuously absent. In this manner were the following areas worked: Cuajimoloyas - 14 Feb; Santa Reyes Pápalo - 15 Feb; Zoquitlan - 16 Feb. On 17 Feb we headed NE for the outlying Thorius locality at Las Vigas, stopping en route at localities in Fortin and Huatusco (see below). On 18 Feb we left Las Vigas and returned to Mexico City ~~with~~, making one ~~un~~ unsuccessful visit to our first locality in the pine forest W of Rio Frio, Est. Mexico to find additional herps.

Each day is briefly treated separately below:

Hanken, James 1976

Journal

en route to ~~LA~~ SF from ~~SF~~ LA, California, U.S.A.

14-18 February 14 Feb: We drove SE from Oaxaca to Diaz Ordaz where we took the dirt road N to Cuajimoloyas, ascending rapidly from the dry, desert-like valley through scrub oak to high elevation pine forest. The road is quite drivable in a ~~com~~ conventional vehicle to Cuajimoloyas although it deteriorates a bit beyond Cuajimoloyas. We first worked a pine forest just beyond town, but it was dry and produced no herps. Two successful localities were found further along the dirt road on relatively mesic, shaded, forested slopes with abundant fallen logs. Only Thorius were taken; these in the usual places under bark and fallen logs in the forests of pine with some oak and madrone.

15 Feb: We drove N from Oaxaca along Mex Hwy 150 → Mex Hwy 131 and on to San Juan Bautista Cuicatlan where we took the dirt road ~~out to~~ NE to Santos Reyes Papalo (see map). This excursion was reminiscent of that of 14 Feb except that we ~~had~~ first dropped to an elevation of ~650 m. after leaving Oaxaca and approaching Cuicatlán. The road S of Cuicatlán passes through a deep cactus-laden canyon which is one of the most beautiful places I have seen in all of Mexico, ~~to~~ broadening to an

Hanken, James 1976

Journal

en route from LA to SF, California, USA

14-18 February agricultural-laden valley near Cuicatlán. The ride from Cuicatlan to Santos Reyes is quite dramatic as one quickly ascends to ~3000 m. The area in the vicinity of Santos Reyes is similar to that of Cuajimoloyas except that at the crest of the Continental Divide one encounters a conspicuous pine forest with isolated trees dotting up from a green carpet of grass and berry-like low shrubs. The logging roads here evidently criss-cross the countryside and should provide access to good areas for collecting, including E of the divide. We had only a little time to make a brief foray E of the divide and found six Thorius under logs along the road. W of the Divide we hit a locality 8 km NE of Santos Reyes - the usual pine forest habitat - and one 11 km NE of Santos Reyes a mostly exclusively oak-forested slope along a creek. One lone Pseudoeurycea was found at the latter locality in addition to Thorius.

16 Feb:

Hanken, James 1976

Journal

Western Hills Motel, Sanderson, Val Verde, Co., Texas

6 July 0900 - Doug Eakins and I stayed here last night after driving yesterday morning from the Southwestern Research Station in Portal, Arizona. We are bound for Mexico City and a rendezvous with Dave Wake, Jim Lynch, and Martin Feder to take part in a salamander collecting trip in southern Mexico. Doug and I left Berkeley at ~10:30 AM on July 2 and drove the first day to just outside of Victorville, San Bernardino Co, the first night. We reached the Chiracahua's and SWRS the evening of July 3 and remained there thru the morning of July 5. Doug and I attempted to collect some herps while at the station to send to Dick Sage but were only moderately successful. We visited a couple areas below Portal in the morning and collected four Urosaurus ornatus in a dry wash near the road to Paradise. We also caught several Sceloporus jarrovi and a S. virgatus in So. Fork Canyon just above the parking area. The area is extremely dry having had

Hanken, James 1976

Journal

Western Hills Motel, Sanderson, Val Verde Co., Texas

6 July little rain ~~yet~~ yet this summer season. Cave Creek by the Station is dry as is So. Fork below the parking area. Some of my favorite cattle tanks for collecting toads ~~or~~ are dry or nearly so. In the afternoon a storm came up which held more dust than rain and ~~dur~~ while night driving the road to Animas later in the day we were able to find only one Scaphiopus and four Bufo, two of the latter in a small puddle beside the road in Animas. My favorite streetlamps in Animas for finding toads had only one; presumably the high winds and lack of insects were somewhat to blame. Returning to the ~~st~~ Station that evening we joined John Miranda, a grad student of Howard Topoff's at CUNY, and two assistants in their search for ~~army~~ army ants. We left the Station at around 9AM and continued essentially straight thru to Sanderson, doing a bit of night driving on Hwy 90 bet/ Marathon and

Hanken, James 1976

Journal

<u>Western Hills Motel, Sanderson, Val Verde Co., Texas</u>

6 July Sanderson - we ~~t~~ found one small <u>Crotalus</u> (viridis?) and a <u>Bufo</u> (<u>valliceps</u>?). A storm preceded us on this stretch of the road and might have reduced snake activity while apparently not being great enough to bring out amphibians. Today we will cross the border at Eagle Pass after doing a few errands and try to drive as far as Cerro Potosí in Nuevo Leon, and the locality for <u>Chiropterotriton priscus</u>

<u>Monclova, Est. Coahuila, Mexico, elev. 1900'</u>

7 July 9AM Doug Eakins and I are here at the town square waiting for the banks to open so we may cash a ~~travelers~~ travelers check. After driving from Sanderson to Eagle Pass yesterday morning (accomplishing many errands along the way) we finally crossed the border at Eagle Pass at ~4:30 PM. We had some difficulty at the border inspection ~~with~~ getting our liquid nitrogen container into Mexico but we got clearance after about 45 min. and didn't have to pay anything (except a solicited 50¢

Hanken, James
1976

Journal

Monclova, Est. Coahuila, Mexico, elev. 1900 ft.

7 July tip to one of the guards. After crossing we drove S on Mex Hwy 57 to just S of Sabinas where we drove W on the road to Barroteran and camped. For most of the afternoon we had been trailing a large storm which had ~~evidently~~ dropped much rain in its path. The road was often wet and large shallow pools were common on the desert ~~adjacen~~ adjacent to the road. While this made it inconvenient to camp (we slept in the car) it did bring out anurans, and I caught three small ♂ frogs calling in a pool beside the road by our camp. They ~~are~~ ~~presumably~~ appear to be Gastrophryne by their small size and general shape. Their call was a moderately-pitched trill lasting 2-3 seconds and given every 15-30 seconds. All calling was done from the middle of small clumps of grass in the pool, and it was necessary to wade into the water to capture them. We arose this AM at sunrise under overcast skies and drove straight to Monclova. Hopefully we will reach Cerro Potosi this afternoon

Hanken, James
1976

Journal

Hotel Noriega, Pachuca, Est. Hidalgo , Mexico

10 July 8 AM I haven't made any journal entries since ~~AT~~ 7 July AM as we've either been driving, collecting or camping in the rain when writing is, to say the least, not convenient. On 7 July we drove S from Monclova to ~~the~~ Mex Hwy to Galeana. After reaching Galeana we inquired at the office of the electric company on the main square as to the ~~to~~ location of the road to the Micro Ondas Station on Cerro Potosí". The road is a continuation of the one leaving N from the NW corner of the town. It passes through a broad valley with Cerro Potosí off ahead and to the left. After ~9 miles you approach a ~~S~~ small village ~~at~~ at the lower end of which you turn to the left to continue up the mountain leaving the village to the right. We stopped at 10.5 mi NW Galeana to turn a few logs by a sawmill and found 3 Sceloporus. We continued on up the road which, despite the recent heavy rains and rain falling at that time, was in good shape for a dirt and gravel road with only one or two spots where we had to remove some rock ~~slides~~ slides. We continued on up to the MicroOndas station 22 mi. ~~of the~~ from Galeana when we stopped to collect. The forest at that point is one of ~~loosely~~ sca pines with

Hanken, James 1976

Journal

10 July

Hotel Noriega, Pachuca, Est. Hidalgo, Mexico

an understory of low, almost prostrate shrubs. Some parts of the slope showed evidence of logging while there were still trees standing, while other parts were almost bare. Doug and I found a total of 28 Chiropterotriton priscus here, all on the ~~ground~~ ground under smallish logs or fallen ~~logs~~ limbs (6-10" ~~in~~ in diameter); Few were found under rocks and only 1 or 2 under or inside big logs. We collected for ~1½ hrs. Returning down the mountain we stopped to collect just before dark at ~9100 ft. elev. The vegetation was similar but with fewer logs to turn. We found 13 sals in ~½ hour. Continuing on back to the main highway S of Galeana we headed W a few miles and camped (slept in the car as it was pouring rain). One toad (B. punctatus?) was found on the road in the rain before we stopped to camp.

On 8 July we continued S on Mex Hwy 57 to Mex Hwy 80 where we headed E towards Ciudad del Maiz. After stopping for gas and getting ripped-off by a faulty pump in town (~~as~~ a repeat of last year with the Greer's) we continued E out of town and visited the ~~oak~~ same oak forest which the Greer's, Sam Sweet, and I worked a year ago last May. This time it was wet, though

Hanken, James 1976

Journal

Hotel Noriega, Pachuca, Est. Hidalgo, Mexico

10 July and we found only a few Sceloporus and skinks (Scincella) under rocks but did find two salamanders, possibly Pseudoeurycea galeanae. Doug found one under a rock at the base of a tree while I found one on the surface of a rock under some wet moss. We turned at least a hundred other rocks which seemed suitable for sals but found no other. We left Ciudad del Maiz for Mex Hwy 57 and continued on to Mexico City via Queretaro (including a rather intense thunder storm) and arrived at the Hotel de Carlo at 4 PM

Hotel Quinta Chilla, Tamazunchale, Est. San Luis Potosi, Mexico

11 July Doug Eakins and I drove from Pachuca to ~~Tamz~~ Tamazunchale via Mex Hwy 85 yesterday stopping to look for Chiropterotriton in caves in the town of Durango. Approaching Durango from the SW one passes through rather steep ~~pine-covered~~ pine + oak-covered slopes at levels ~~of ag~~ of greater than 7000'. Durango itself lies in a basin ~~of~~ with extensive limestone outcrops. We ~~was~~ didn't stop en route to Durango although the forests SW of town seem suitable habitat for sals, but instead tried to look for caves in town.

Hanken, James 1976

Journal

Hotel Quinta Chilla, Tamazunchale, Est. San Luis Potosi, Mexico

11 July We inquired with several people in town ~~bad~~ as to the location of a cave in the town itself, but were told of only two caves, both of which we visited. One was shown us by Sr.

who lived in the village and took us to a sinkhole near his house, ~~in two~~ ~1 km from the highway. It was ~30-40' deep and quite broad. We could easily descend into it and check the walls for sals but there were none. Several of the walls were dripping wet but we were told that they dry up in the dry season. The other cave was reached by driving ~2 Km SW of Durango and taking a dirt road off to the right at the crest of the hill outside of town. A limestone outcrop shows on a steep cliff on another hill ~~down to~~ across a ravine to the NW(?) and the opening of a cave is visible from far off. We hiked up to near the opening but found that ~~the~~ a good deal of the cliff face surrounding the cave entrance had sheared off ~~a~~ recently due to heavy rains making ~~out~~ the cave entrance nearly inaccessible and a risky venture. Doug, however, made a valiant attempt at entering the cave and succeeded, only to ~~find~~ find only a few

Hanken, James 1976

Journal

Hotel Quinta Chilla, Tamazunchale, San Luis Potosi, Mexico

11 July millipedes. He tells me that the cave protruded horizontally into the hillside ~20 yards and was equally broad once inside the cave mouth which was ~30' wide and 10' high. There were a couple small pools of water in addition to ~1/3 - 1/2 of the walls dripping with water. Stalagtites were abundant. From Durango we continued N to Tamazunchale stopping at a few localities to look for terrestrial salamanders. Limestone areas seem generally difficult to work as most of the protruding rocks can't be turned. ~~an~~ Also, most of the trees are stunted (presumably due to shallow soils) and there are few, if any, logs to turn. Continuing on to Tamazunchale along winding Hwy 85 ~~we~~ often through dense fog we passed the town of Zacate Grande where a ~~b~~ breeding chorus of frogs was heard as we drove by. The frogs were calling from a shallow (<6" deep) pool alongside the road and in front of some homes. We stopped to collect and were helped by some local urchins. ~~to~~ In a matter of minutes we had collected three Bufo, one small Hylid, and five larger hylids, possibly Smilisca or Phrynohyas.

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Journal

Hotel Quinta Chilla, Tamazunchale, Est. San Luis Potosi, Mexico

12 July Yesterday, Doug Eakins and I spent another frustrating day looking for salamanders in the area about Tamazunchale, driving N ~~and then~~ out of T. and then W towards the town of Xilitla. We drove to Ahuacatlan to ~~to~~ collect C. magnipes in the Cueva de la Iglesia where Allen + Philip Greer, Sam Sweet, and I had collected over 15 last May. We found none after looking for over an hour. Sr. Cerano, whose ~~house~~ property includes the cave, said that the animals disperse when the weather is wet. This is apparently the case as it has rained in each of the last eighteen days (unusual in its amount) to the extent that the farmers' crops are rotting in the ground!
Continuing W we worked a stand of tall deciduous forest (mostly Acer) outside of town, and then the pine-oak forest above El Lobo, all to no avail. We continued driving W to search for other habitats, but none looked as good as those where we worked and we returned to Tamazunchale. We did find a large yellow + black banded snake DOR W of El Lobo and

Hanken, James 1976

Journal

Hotel Quinta Chilla, Tamazunchale, Est. San Luis Potosí, Mexico

12 July several Bufo ~~or~~ hopping across the road in the early evening rain outside of Tamazunchale.

Hotel Primavera, Oaxaca, ~~Mexico~~ Est. Oaxaca, Mexico

17 July I haven't made a journal entry for several days as essentially all the time since the last entry has been spent driving, collecting specimens, ~~or~~ cataloguing specimens, eating, or sleeping. Doug Eakins and I are now in Oaxaca where we have again hooked up with Dave Wake, Jim Lynch, and Martin & Julie Feder. I'll treat each day since the last entry separately:

12 July - Doug and I drove out of Tamazunchale bound for Oaxaca, stopping en route to look, unsuccessfully, for salamanders at localities within a few Km ~~of~~ ~~ea~~ of ~~ei~~ either end of Durango. We drove hard but couldn't make it all the way to Oaxaca and camped ~80 mi. NW of Oaxaca along Mex Hwy 190.

13 July - Doug went w/ Dave Wake and Jim Lynch to the Sierra de Cuatro Venados while Martin, Julie, and I went to Cerro San Felipe. We collected at several localities

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Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

17 July including 4 km W La Cumbre in the cleared area of forest below a power line where Martin took temps. of Thorius under bark which suggested that they are thermoregulating (choosing ~~often~~ apparently optimal warm temperatures where it exists ~~as~~ together w/ sufficient moisture (see Martin for details) ~~I was at~~ We collected at the P. lungiodentis locality 9 km W La Cumbre and obtained a good sample from here. This locality is dominated more by oak and madrone although pine is present; the other localities are more exclusively pine. Thorius was often more common in disturbed areas w/ many ~~ov~~ exposed cover objects than in mature forest. All these animals are apparently T. narisovalis (see species account). Doug, Dave, + Jim collected a sample of six Thorius, apparently T. pulmonaris, which ~~el~~ froze for comparison.

14 July - Doug and I attempted to get Thorius along Mex hwy 175 below La Cumbre to find T. pulmonaris. We started looking at ~ the 6000' level and finally found 9 inside or under logs in the pine forest at ~7100'. This

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Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

17 July locality is along the road where it runs along a ~~relatively~~ relatively ~~flat~~ level ridge ~4 mi. S of La Cumbre. The Thorius were very local, all but one being taken in a complex of fallen logs lying together in a small clearing. They seem to be pulmonaris, confirming Taylor's vertical ~~dist~~ zoning of it and narisovalis. ~~After~~ We were joined ~~by~~ beside the road by Pete Mundell, a former Thorius worker now studying centipedes. He has collected Thorius throughout its range and could be a real help for additional localities. He told me that the type locality for the two Cerro San Felipe species is along a path up the ~~mtn side~~ mtn leaving from N of the town of San Felipe N of Oaxaca. He says this info. is from Taylor, and says he has taken animals there. After ~~to~~ ~~talking~~ talking with him Doug and I continued to the 4 km W La Cumbre locality and Martin & Julie Feder who had collected more Thorius.

15 July - All six of us journeyed to the Thorius locality S of Sola de Vega where many have been collected in November

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Journal

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17 July but none in February. None were found in the road bank where they were so abundant in the past, nor in the oak forest, but ~90 were collected in the pine forest under or inside logs, under small fallen branches, and under rocks or cowpies exposed to the sun. Two were found under a piece of human excrement. It has been ~~sunny~~ raining quite ~~a lot alot~~ much and surface litter was dry, but often *Thorius* was found in the small moist area when two small fallen branches would cross or contact the ground. ~~For~~ These, too, seem to be *pulmonaris*. We returned N towards ~~too~~ Sola de Vega but stopped lower down to ~~look~~ investigate a *Bolitoglossa* locality but none were found.

16 July - Doug and I went S again, but this time took Hwy 175 towards Puerto Angel. We wanted to visit a *Thorius* locality 1 mi. N of Suchixtepec. The pavement ends a few miles S of Miahuatlan where a wide but bumpy dirt road continues. The recent rains have gutted the road and a few spots are quite muddy. We passed through a military checkpoint between Miahuatlan

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Journal

Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

17 July and Suchixtepec where the car was given a pretty thorough going over. ~~We stop Stoughten~~ S of Miahuatlan the road ascends into pine-oak forest where it remains, essentially above the 8000' level, at least as far as Suchixtepec. We ~~lo~~ stopped to collect at two localities, ~3 and 9 mi. N of Suchixtepec where Thorius was found under logs. Many of the fallen logs were charred and the standing trees not quite mature suggesting a fire some years back. Several Thorius were found under these charred logs, or in ~~the the~~ litter and pine needles next to the logs. Our return trip was pretty much through a downpour making the road messy and at one point we had to wait ~45 minutes for a bulldozer to clear a particularly muddy stretch. Meanwhile, Dave Wake and Jim Lynch ~~travel~~ returned to the Sierra de Cuatro Venados in the vicinity of San Vicente Lachixio and collected a few Pseudoeurycea cochranae in addition to several Thorius. Both Doug and my Thorius and those of Dave and Jim seem to be pulmonaris.

17 July - Today everyone is taking it easy, tying up loose ends and resting. Doug and I

Hanken, James 1978

Journal

Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

17 July spent the morning walking part way up Cerro San Felipe along the trail supposedly used by E. H. Taylor when he collected the type specimens of *T. pulmonaris* and *T. narisovalis*. The trail begins at ~5700 ft. and we continued to just above 6300 ft which was in about 3 miles. The trail passes through chaparral-like vegetation of mostly scrub oak, running across several small ridges between which run small rivulets lined with more-mesic vegetation of broad-leaved trees, understory, and litter. We raked through this litter several times along the path but found no *Thorius*. When we decided to turn around the vegetation was getting less scrubby and but taller, but from what we could see the pine forest (where all of my *Thorius* in this region have so far found) did not begin until several hundred feet higher. Dave Wake and Jim Lynch journeyed to the town of Etla on the N side of Cerro San Felipe and collected only one *Thorius*, apparently *pulmonaris*, and some reptiles.

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Journal

Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

18 July This AM Martin & Julie Feder, Dave Wake, Jim Lynch, Doug Eakins, and myself attempted to get to Asuncion Mixtepec in the Sierra de los Cuatro Venados, an important locality for Pseudoeurycea and Thorius visited by Charles Bogert. Driving S on Mex Hwy ~~175~~ 131 out of Oaxaca we turned W on to a dirt road leaving from the main highway just S of a bridge a few Km S of the town of Val de Flores. We proceeded only a few km when we came to a river crossing which we decided not to try as buses and trucks were having trouble crossing the swollen stream. It hasn't rained in 3 days and yet passage is still ~~a~~ restricted at this point: obviously early in the dry season would be a better time to try this route. We returned to the main ~~to~~ hwy and decided to travel NW of Oaxaca on Mex Hwy 190 and visit another of Bogert's localities, Tejocotes. ~~We worked a local~~ The ~~H~~ hwy here has climbed steeply out of the Oaxaca valley to elevations just under 8000' before the road drops down again to the NW. The ~~road~~ habitat at this point is more of the usual pine-oak situation, much of it being second growth as one of the main livelihoods in this region

Hanken, James 1976

Journal

Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

18 July is cutting trees for making charcoal. The slope ~~of uphill and facing the~~ from and facing the road at this point was ~~more~~ relatively drier than the slope on the other side of the crest of this slope which had moss growing conspicuously on the oaks which were the dominant tree. Epiphytes, especially bromeliads, were abundant. We worked this locality for over 2-2½ hrs and yet found only one Thorius (found by Julie Feder under a piece of bark in the drier slope) and two P. cochranae. Martin found an attractively colored snake (dark ground color with yellow dorsolateral stripes) inside a rotting (Coniophanes?) ~~stump~~ and Jim Lynch found a juvenile Abronia mixteca inside a bromeliad on a relatively exposed tree on the ridge. Several Sceloporus were also taken.

Restaurant at El Machin, Est. Oaxaca, Mexico

19 July After doing some errands in Oaxaca in the AM Doug and I left N on Mex Hwy 175 for Veracruz. Our plan is to spend three days collecting between ~~to~~ Cerro San Felipe and Vista Hermosa to pinpoint the ranges of the various Thorius species in this region. We visited one locality N of Cerro San Felipe before dropping down to the river just S of Guelatao. This locality was 17.4 mi.

Hanken,
James
1976

Journal

19 July

Restaurant at El Machin, ~~Oax~~ Est. Oaxaca, Mexico N of the junction of Mex Hwy 190 + 175 at an ~~el~~ elev. of 7950 ft. despite the presence of mature oak + pine forest with abundant fallen logs with good bark no salamanders were found. The surface litter was dry but the logs and deeper litter was moist. We collected ~~la~~ two ~~S~~ Eumeces and two Sceloporus, I myself saw at least ten tarantulas. N of this locality the road begins to drop in elevation and ~~thus~~ the ~~bal~~ vegetation quickly ~~began~~ becomes more xeric (scrubby, almost chaparral like). I doubt if there are any salamanders much N of Loma Grande. Continuing N we stopped again 7.1 mi N of Guelatao at 7320' where the pine-oak forest has begun to reappear, although it is obviously drier than at higher elevations. Working for ~1½ hrs we collected only one Thorius despite the abundance of good cover (rocks + logs). The lone Thorius was found under a fallen limb only ~3" in diameter. It is of a different species than those to the S being generally small (even for a Thorius) with a small oval nostril. This indiv. is apparently diseased as it had a tumor-like growth on the left side of its head and behind the right hind limb. Two more Eumeces were also found, and an Eleutherodactylus hopping around in the

Hanken, James 1976

Journal

~~Hot~~ Restaurant at El Mach, est. Oaxaca, Mexico

19 July scrubby growth beside the road. The next two localities were 13.5 and 20.5 mi. N of Guelatao, respectively, both over 9000' elev. In both cases working the mature, wet, pine-oak forest with abundant moss + bromeliads was not very fruitful. ~~All~~ ~~two~~ Few ~~O~~ *Thorius* were taken at these localities, and the majority of these were taken in the disturbed, relatively exposed, scrubby growth beside the road under logs, rocks, + trash. Are they actually more abundant in these areas or is the forest just so wet as to not concentrate them under cover objects?

One *Thamnophis* was found by Doug under a rock beside the road at the first locality.

The next two localities were both N of Llano de las Flores. We chose disturbed areas with exposed rocks and logs in the hopes of getting more *Thorius*. The first locality was 2.7 mi. N of Llano ... (or 25.4 mi. N of Guelatao) on a hillside with a narrow swath cut over for transmission lines. Approx. 35 *Thorius* were taken ~~of~~ representing two species, one large and one small, apparently the same two which were found at Llano de las Flores in the winter. There were two instances where the two species were found in the same log, once by Doug with an indiv. of each within the outer first inch of a rotten log, and once by me with one indiv. of the smaller

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Journal

Restaurant at El Machin, Est. Oaxaca, Mexico

19 July species under bark above, and the larger species under the log. The second locality was 29.8 mi. N of Guelatao. ~~to~~ Here we worked the cut + burned over low scrubby habitat under transmission lines. Bracken ferns were most abundant w/ pines beginning to colonize the habitat. The area appeared generally inhospitable except for our finding 8 Thorius under the few logs and associated litter which was present. They are all apparently of the smaller species. We continued on to Machin where we had a terrific meal of Spanish rice, Salsa de puerco, frijoles, tortillas, beer, + coffee, all for 33 pesos for two. After dinner we worked the road bank along the dirt road E out of Machin for salamanders but saw none. The road bank was wet in a few places but appeared in total too dry to bring salamanders out.

20 July Doug and I continued working ~~areas~~ localities along and near Mex. Hwy 175 between Guelatao and Cerro Pelon. We first worked two localities S of Llano de las Flores in an attempt to get additional localities for the larger of the two species at Llano de las Flores. The first was at the S end of " " " "(~~#~~15.5 mi N of Guelatao)

Hanken, James

1976

Journal

Restaurant at El Madrin, Oaxaca, Mexico

20 July ~~in an area of~~ at the edge of the meadow where the transmission lines pass through the forest. Numerous fallen rotting logs were present among the scrubby second growth as well as adjacent forest. Doug worked the forested area and found ~15 *Thorius*, all of the smaller species. Working the more exposed area I found at least 10-15 *Thorius*, at least 5 or 6 apparently the larger species. In one instance one indiv. of both species was found under the same bark on a fallen log ~3 feet apart. Doug also collected one *Sceloporus*. Next we worked locality #3 of 19 July, 13.5 mi. N Guelatao to see if we would have greater luck working the exposed area beneath transmission ~~lines~~ lines than the forest which we worked on 19 July. We had better luck, finding 8 *Thorius* in ~½ hour: two under logs, two under bark of stumps, and four inside logs beneath bark

Hauken, James 1976

Journal

Hotel Mayorga, Fortin de las Flores, Est. Veracruz, Mexico

25 July There have been no journal entries since I literally stopped in mid-sentence on 20 July. We have been on the go continuously, or using evening hours to preserve and freeze specimens leaving no time for Doug nor I to write notes. I'll try to summarize the last few days below:

20 July - Continued working the area between Llano de las Flores and the top of Cerro Pelon, stopping every few miles to try to get a Thorius sample. In an ~~effort~~ attempt to pinpoint the type locality for T. macdougalli we drove to the town of Maquiltianguis, SW of Cerro Pelon. I inquired at the restaurant at Machin as to the whereabouts of the road to the town, and was directed to a turnoff from Mex. Hwy 175 1.2 mi. (by road) S of Machin, contrary to the Oaxaca State map which has this road leaving from Machin (although this road will also get you to Maquiltianguis via Comaltepec). The road quickly drops in elevation ~~to~~ from the main hwy to the town of Maquiltianguis at 6750 ft. Once in the town I asked where Cerro ~~Hum~~ Humo was, and everyone pointed back to Cerro Pelon and said it was right next to ~~then~~ Cerro Pelon. Apparently, MacDougall got the Thorius on or adjacent to Cerro Pelon at a high elevations

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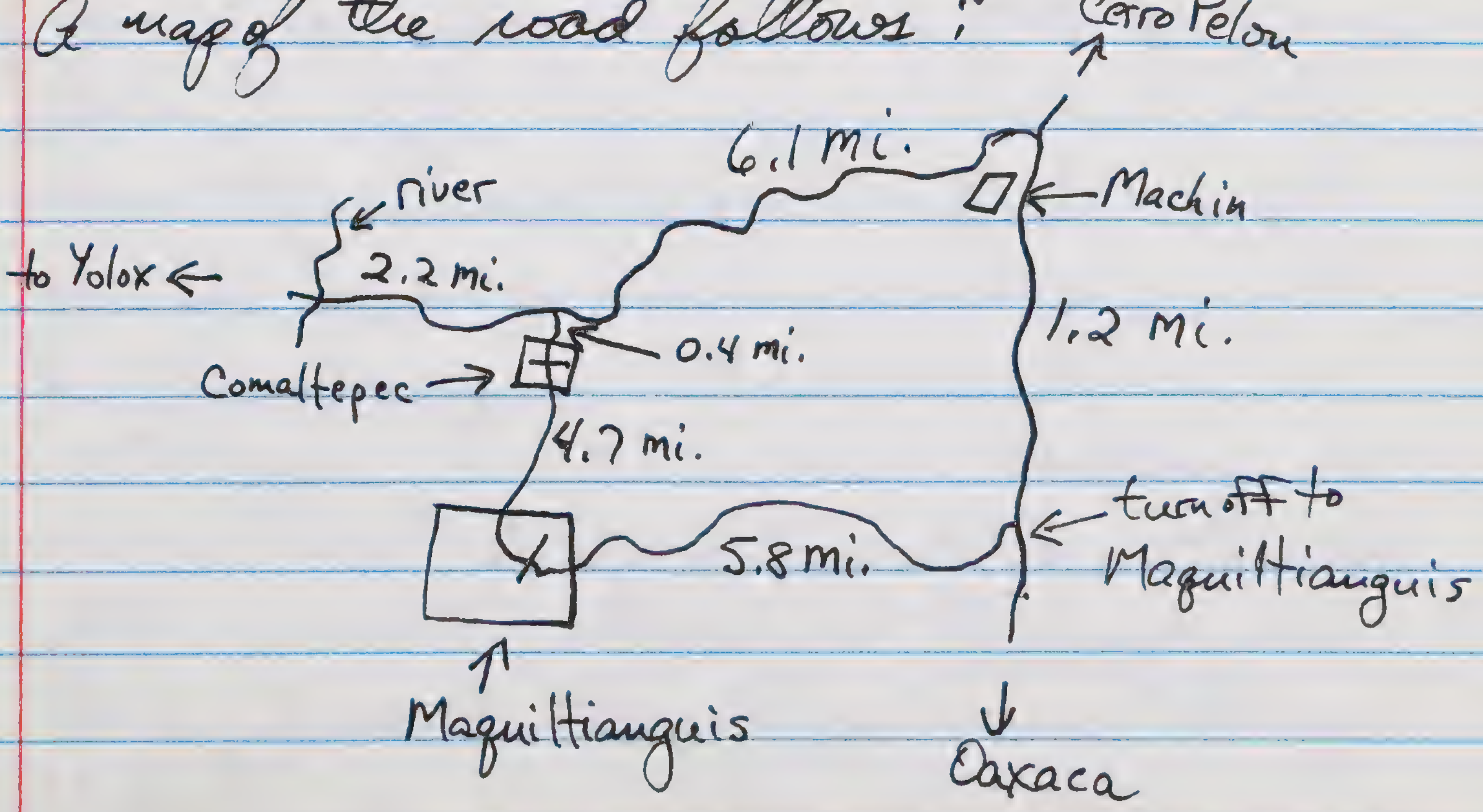
Journal

Hotel Mayorga, Fortin de las Flores, Est. Veracruz, Mexico

25 July (cont'd)

and used Maquiltianguis as a reference locality because it was the largest town in the vicinity, possibly along the main route to Oaxaca City from Cerro Pelon. We proceeded to loop back to Machin via the town of Comaltepec on a relatively good dirt road which was being repaired while we traveled on it. From Comaltepec there is a road leading W ~~towards~~ ~~Santos Reyes Papalo~~ onto ~~other mo~~ another ridge. We tried taking this road but couldn't get more than a couple miles because of a ~~flood~~ swollen stream which ~~was~~ crossed the road. This would be a good road to take in the dry season as it would allow entry to ~~areas~~ localities ~~unknown~~ between Cerro Pelon and Santos Reyes Papalo to the NW. A map of the road follows:



Hanken, James 1976

Journal

Hotel Mayorga, Fortin de las Flores, Est. Veracruz, Mexico

25 July (cont'd) We stopped at two localities W of Machin, the first a cleared hillside at 7900' with adjacent wet oak-pine-madrone forest. Here we collected 2 Pseudoeurycea belli, 8 Eumeces and 7 snakes by turning rocks in the ~~clear~~ clearing, and 3 Sceloporus in the forest. No Thorius were found. Closer to Machin we stopped at 8540 ft. in wet pine-oak forest and took Thorius (apparently all the small species from Llano de las Flores) under rocks and logs and one ~~ung~~ mystery Pseudoeurycea under bark on a fallen log. We finished off the day in the rain on top of Cerro Pelon, getting ten Thorius there and 2 at 1 km N Cerro Pelon, the latter two of a different species.

21 ~~22~~ July - Doug and I worked numerous localities from the vicinity of the top of Cerro Pelon to Vista Hermosa. We had better luck than Brad and I had this winter getting Thorius in greater numbers as well as Pseudoeurycea in several places (see catalogue). We also saw a coatimundi ~2 mi. N of the top of Cerro Pelon on the side of the road. No Bromeliad Thorius were taken from the cloud forest area. ~~Fr~~ From Vista Hermosa we drove on to Tuxtepec to spend

Hanken, James 1976

Journal

Hotel Mayorga, Fortin de las Flores, Est. Veracruz, Mexico

25 July (cont'd) the night.

~~22~~ 22 July – Drove straight to Fortin de las Flores and Cuatlapam in the AM. We worked Ted Papenfuss' locality at the Barranca de San Miguel for *Thorius* but found none. Later in the afternoon we hooked up with Carlos Ceron and Senon Solano who helped us to ~~co~~ collect 12 *Thorius*, ~~and~~ 2 *Lineatriton*, one *Ninia*, and one *Bufo* in the cafetal and brushy area around the ~~S~~ Casa de Senon. Leaving Cuatlapam we met ~~Dave, W~~ ~~the~~ Dave, Marvalee, + Tom Wake, Martin + Julie Feder, and Jim Lynch who had just arrived from Oaxaca after being delayed for a day because of illness to Marvalee + Tom. We all returned to Fortin. (While being delayed, however, Martin, Julie, + Jim went to Llano de las Flores and collected a good sample of *Thorius* of both species. Several of the larger species, however, died before they could be frozen).

~~23~~ 23 July – We split our large party into ~~two~~ three groups. ~~T~~ Dave Wake, Jim Lynch, Senon Solano, and a friend of Senon's went to the peak of Cerro Chicahuaxtla and collected one *Pseudoeurycea nigromaculata* and a *Parvimolge townsendi*.

Hanken, James 1976

Journal

Hotel Mayorga, Fortin de las Flores, Est. Veracruz, Mexico

25 July (cont'd) Marvalee + Tom Wake and the Fedei's worked the area behind Miguel's house and collected a few *Thorius*, a few *Parvimolge*, two *Lineatriton*, and one *B. rufescens*. Dave Wake's party also got a snake and two *Xenosaurus grandis*. Doug, Carlos Ceron, and myself went to Xometla. ~~We drove on~~ on the flanks of Volcan Orizaba. We were able to drive on pavement to La Perla, and then on a gravel road ~~to~~ 2.7 mi. to the town of Tejocote (elev 6100'). From here we walked ~5 mi. in 2½ hrs to Xometla (elev ~8600') along foot paths and the truck road. The road to Xometla appears passable in most places, but some spots are very muddy or covered with mudslides and the road is closed to motor traffic just above Tejocote. We were told that one may also reach Xometla from Loma Grande (where Brad Shaffer, Carlos, and I got *Thorius* samples last winter) to the W. This is still a three hour walk, but you are starting at the approximately same elevation. The weather was perfect for our trip to Xometla; sunny + warm in the morning, clouding over in the afternoon with only a slight rain shower while we were walking down. We worked the partially cut-over pine forest above Xometla (called Aguas Escondidas)

Hanken, James 1976

Journal

Hotel Mayorga, Fortin de Las Flores, Est. Veracruz, Mexico

25 July (cont'd) and collected ~60 Thorius of two species. I could not separate the two until returning to ~~Fo~~ Fortin so I can't make ~~con~~ ecological obs. distinguishing the two, but Thorius were taken under bark on stumps, under logs, and, abundantly, in piles of wood chips and shavings. The two species appear to be the same two which are at El Berro: T. spilogaster (almost melanistic) and another large form w/a colored dorsal stripe. We also took ~6 Pseudoeurycea gadovii under bark and inside logs, ~~several~~ ~25 P. leprosa, and >30 Chiropterotriton chiropterus, several of the latter two in ~~p~~ bromeliads.

24 July - Today we split into two groups. The Wake's, Feder's, and Jim Lynch went to Puerto del Aire and worked the locality 3.2 Km S of Mex. Hwy 190. They concentrated on bromeliads in search of Thorius (dubitus?) and P. firscheini. They found no ~~Thorius~~ Pseudoeurycea, but took eight Thorius from bromeliads. In addition, ~70 Thorius were found on the ground under rocks. In looking over these latter animals in the evening I picked out 10 which seemed to resemble the bromeliad type because of the slightly keeled tail. However, the coloration was not the same (see species account). They were frozen separately and

Hanken, James 1976

Journal

Hotel Mayorga, Fortín de las Flores, Est. Veracruz, Mexico

25 July cont'd should be run against the others. Eight Chiropterotriton were also taken in bromeliads, and a Coniophanes-like snake on the ground. Making a second stop W of P del A they found 1 Thorius and 3 Hyla(?) Doug, Carlos, and myself, meanwhile, continued to San Felipe to revisit the localities which Brad and I visited this winter. I again tried to pin Carlos down as to whether we were going where John Wright and Roy McDiarmid had gone, as their directions specifically mention being on the road to Lagunas San Bernadino while we leave the main road to " " " at San Felipe. It turns that when we ~~turn~~ bear left at the junction in San Felipe we are taking the old road to Lagunas, while the road going straight is a newer road, only 2-3 years old. Presumably when John & Roy were here in ~~??~~ 1970 they took the road to the left. This is confirmed by the mileages to the localities which are approximately equal for us and them, although the elevations differ. This time we had poorer luck than this winter, collecting only 18 Thorius at the 7.4 mi E locality and five at the second locality. The only Pseudoeurycea firscheini found was squeezed out of a Thamnophis found by Carlos at the first locality. The forest was definitely drier today than it had

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Journal

Hotel Mayorga, Fortin de la Flores, Est. Veracruz, Mexico

25 July (cont'd) been in January in the "dry" season.

25 July - No collecting!! Day of rest -

26 July Doug and I visited Roy McDiarmid's localities on either side of Huatusco where he collected one or two Thorius several years ~~agoago~~ ago. One locality is 4 3/4 mi SW Huatusco, the other ~1 mi NE. Both localities are pastoral-looking areas w/ ~~scattered~~ large oak trees scattered ~~in~~ among lush green grass used for grazing cattle. It reminds one of the inner-coast ranges in Napa or Mendocino Co's but that quickly disappears when you look more closely and see the abundant bromeliads on the trees ~~and~~ and ~~that~~ realize that ~~this veg~~ these areas have been previously cleared from denser forest as ~~as~~ is present nearby. We spent ~1 hour looking at each locality and found no amphibians whatsoever, the ground feeling relatively dry compared w/ the Cuatlapan area. We did find a few Sceloporus, one Scincella, and several small, slender snakes w/ dark ground color and a yellow neck ring. This is compared to McDiarmid's taking only amphibian when he collected here. From Huatusco we continued on

Hanken, James 1976

Journal

Hotel Mayorga, Fortin de las Flores, Est. Veracruz, Mexico

26 July to Teocelo where Sam Sweet and Ted Papenfuss have collected *Thorius* in great numbers in December + January several years ago. The locality is just N of the town in a cafetal of coffee + banana plants along the slopes of a deep ravine. We spent over an hour there and never found one *Thorius* despite having turned numerous rocks, logs, etc. I found one more of the dark ring-necked snakes. From Teocelo we returned to Fortin for the night.

Southwestern Research Station, Chiracahua Mtns, Portal, Arizona

6 August Doug and I arrived here last night after driving yesterday from Alpine, Texas, having crossed the border from Mexico at Eagle Pass the evening of 3 August. I haven't made any journal entries since Fortin on 26 July, and will here summarize the intervening days:
27 July: Doug and I drove from Cuatlapam straight through to Chilpancingo, Guerrero. We left most of our collecting gear and liquid nitrogen container w/ Miguel Ceron, not wishing to carry anything which might give the Federales cause to give us grief in Guerrero. ~~Leaving~~

Hanken, James 1976

Journal

Southwestern Research Station, Chiracahua Mtn's, Portal, Arizona,

6 Aug (cont'd) 27 July (cont'd) We took the main toll road to Mexico City and then ~~old~~ another toll road, Mex 95D, S to Iguala and then Mex 95 to Chilpancingo. One can easily see how there can be a different Thorius in western Guerrero as the mtns on either side of Hwy 95 are separated by land w/elevations never, if at all, exceeding 5000' ~~in~~ elevation ~~with~~ quite ~~mesic~~ xeric vegetation of scrubby oak, organ-pipe cactus, and chaparral shrubs. Presumably the high mountains to the N are isolated as well, as Thorius has never been taken there. Upon arriving in ~~Guerrero~~ Chilpancingo we checked at the Motel San Antonio for Ted Papenfuss who is supposed to meet us on 30 July, and he was not there

28-29 July: Doug and I took a two-day ~~vac~~ sightseeing trip to the Acapulco area while waiting for Ted to show. The road S of Chilpancingo reaches ~4500' elevation before beginning a steady drop to the Pacific Coast. ~~The~~ A scrubby pine forest is present on the S slope of the rise just S of Chilpancingo but seems too dry for Thorius ~~and the~~. We stayed overnight at the Acapulco Trailer Park in Pie de la Cuesta just outside of Acapulco. ~~Returning to Veracruz on 29 July~~

Hanken, James 1976

Journal

Southwestern Research Station, Chiricahua Mtns, Portal, Arizona

6 Aug (cont'd) 28-29 July (cont'd) The next morning we rented a "Sunfish" and went sailing in Puerto Marquez before returning to Chilpancingo.

30 July: Ted had not yet arrived by this morning so Doug and I drove to look for Thorius in the mountains E of Chilpancingo ~~on the~~ along the road to Jetla. The road is paved from Chilpancingo for ~~20~~ 25-30 miles where it ~~is~~ becomes a broad, graded dirt road, good for traveling although with numerous rocks. We traveled ~50 mi. E out of Chilpancingo where the road has reached its highest elevation between there and Chilpancingo of ~6500' and begins ~~an~~ declining town to lower elevation to the ~~S~~ East. We worked here in the very dry scrubby pine ~~fo~~ + oak ~~fore~~ forest for ~ 1/2 hour without ~~fin~~ collecting or even seeing one herp. A local resident said that the rainy season is in August + September, but even then I can't imagine the ~~ex~~ exposed, lightly vegetated hillsides to provide good habitat for salamanders. Apparently to get salamanders in ~~East~~ eastern Guerrero one must take a three day trip Tlapa (~100 mi. from Chilpancingo) and from there work the

Hanken, James 1976

Journal

Southwestern Research Station, Chiricahua Mtns, Portal, Arizona

6 August (cont'd) 30 July (cont'd) high elevation mountain areas (over 9000' in that vicinity). As Doug and I had arranged to meet Ted in Chilpancingo that evening we decided to turn back and return to Chilp.

31 July: We finally hooked up with Ted Papenfuss and friend last night. Today we all journeyed to the Thorius collecting locality SW of Carrizal del Bravos. Taking Hwy 95 N out of Chilpancingo we took the paved road SW from Milpillas into the mountains. The road steadily climbs through xeric, desert-like vegetation (yucca, cactus, thorny shrubs) to more mesic pine forest to dense pine-oak with abundant epiphytes. The area which we worked (named Cholachera) is presently the site of extensive logging with several narrow dirt roads leaving the paved road to crisscross the often steep wooded slopes. The abundance of fallen logs makes travel through the woods difficult while the logs were cut so recently that they don't yet provide good habitat for salamanders (bark not yet loose). Thirty-six ~~th~~ Thorius were found in over 3 hours of working, compared with the ~~greater~~ greater than 100 which Ted ~~to~~ has taken alone in this area

Hauken, James 1976

Journal

Southwestern Research Station, Chiricahua Mtns, Portal, Arizona

6 August (cont'd) 31 July (cont'd) in winter months. Oma were found in local abundance, almost all being taken ~~in~~ in the few good salamander logs (i.e. ~~woods~~ interior breaking up into ~~and~~ chunks, ~~good~~ exfoliating bark). Doug and Bob found the only Pseud of the day under a piece of bark on the ground at the edge of a clearing while several treefrogs (Hyla) were found under bark on logs. We also collected several Barisia roaming about, and Sceloporus of two species under the bark on stumps. Returning through Carrizal del Bravos where Ted had asked the locals to collect herps, ~~we~~ we purchased several more Barisia, and a ~~small~~ dwarf viper, Bothrops sp. The Thorius locality was at ~8300' elevation. Ted has collected a few just SW of Carrizal del Bravos at 7500' and they probably don't occur much lower down than that. Several snakes were found on the road ~~during our visit between Hwy~~ out to and beyond Carrizal including 2 Coniophanes, ~~One~~ one Micrurus, and one Rhadinaea; all but the latter one were DOR.

1 August: The road ~~from~~ between Asoleadero and Puerto del Gallo to the SW involves ~20 mi. of ~~dirt~~ rough dirt road (we were told by locals) and Puerto del Gallo is best reached by going

Hanken,
James
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Journal

Southwestern Research Station, Chiricahua Mtn's, Portal, Arizona

6 August (cont'd) 1 Aug (cont'd) to via Acapulco and Atoyac. *Thorius* presumably are found there as Adler has collected 3 new salamanders, 2 *Pseudo* + 1 *Bolitoglossa*, and Howard Freeman has spent time in the area. Unfortunately I panicked about the fate of our liquid nitrogen which was low in Veracruz and decided it was best to leave Guerrero with the one sample which we had and not risk losing all the others in the container. Hopefully Ted will get a sample from Puerto del Gallo when he is in Tecpan looking for *Bufos*. We spent ~1 hr. with Ted and Bob at his ~~Bufo~~ *Bufo* locality along the Río Balsas before continuing on to Veracruz. We stopped ~40 mi. N of Chilpancingo to try to capture a *Ctenosaura* which we saw from the road but were unsuccessful. Doug, however, did find a small gecko under a rock. We went to Veracruz via Cuautla and Izucar de Matamoros, avoiding the mountains around Mexico City as well as the city itself. Arriving in ~~the~~ Cuatlapam in the evening to collect our gear we received 7 *Xenosaurus* and one *B. platydactyla* which René Cron collected for us around Miguel's home. We paid for them and returned to Fortin

Hanken, James 1976

Journal

Southwestern Research Station, Chiricahua Mtns, Portal, Arizona

6 August

2 August: Doug and I began our return trek to the US by driving from Fortin essentially straight thru to just N of San Luis Potosi where we camped. We did stop for a moment to turn ~~to~~ a few rocks alongside the road between Fortin and Cordoba where Brad and I found three B. platydactyla this winter, but the grass around the rocks had just been cut and the rocks moved. The ground beneath the rocks was dry and no sals found

3 August: We continued N, taking a slight detour to look for P. galeana ~~sals~~ near Galeana. The area was quite dry, and we found no sals at any ~~the~~ of the localities where we stopped.

White Mountains
Mono Co., California

17 - 20 September 1976

Hanken, James 1976

Journal

White Mtn. Research Sta. - Crooked Creek Lab, White ~~Mtns~~ Mtns, Mono Co, Calif, 12,160 ft.

~~#~~ 17 Sept. Tom Hetherington and I arrived here at around noon ~~after~~ today. We left Berkeley yesterday at ~ 4 PM and drove E, crossing the Sierras at Tioga Pass, and camping overnight at the Hartley's Spring Campground a few miles S of Lee Vining. This morning we drove to the White Mtn. Res. Sta. ~~Q~~ Hdqtrs outside Bishop (~3½ mi W on E. Line St) to check in with Don Buser and get directions to the Crooked Creek Lab. It's necessary to drive S from Bishop to just above Lone Pine, head E over Westgard Pass, and then N into the Ancient Bristlecone ~~Pine~~ ~~P~~ Pine Forest. The weather was clear and crisp with temps in the 60's. There was little evidence of any recent rain except for a few drying pools in the dirt road towards the Lab. Snow was visible at the highest elevations in the Sierras to the West.

19 Sept Tom and I ~~are~~ will leave White Mt. this morning after 1½ days of looking for the ephemeral *Ensatina*, unsuccessfully. We spent the afternoon of 17 Sept and all of yesterday working the Cottonwood Creek drainage. On both days we took the road to Cottonwood

Hanken, James 1976

Journal

White Mtn. Research Sta - Crooked Creek Lab, White Mtns, Mono Co Co., Calif

19 Sept Creek which runs past the Crooked Creek Lab and left the car at the entrance to the 4-wheel drive vehicle road at the edge of the ~~cany~~ Cottonwood Creek Canyon. On 17 Sept we hiked down the canyon to the NE of the dirt road which ~~ye~~ intersects Cottonwood Creek E of the junction w/ Tres Plumas Cr. We then proceeded W along Cottonwood Cr. to the point where the 4-wheel drive vehicle reaches the creek, and then returned to our car. Yesterday we descended via the jeep road and worked the canyons as far as Granite Meadow to the NW, ~~as far~~ and also Poison Cr. before returning to the Lab. The most promising localities were clumps of aspens on N-facing slopes, in some cases associated with seeps, which ~~we~~ appeared moist enough for salamanders. Unfortunately there were few of these areas, in particular the first canyon by which we descended 17 Sept, a cluster at the NE end of Granite Meadow, and a ~~soll~~ relatively extensive forested area along the S bank of Cottonwood Cr E of Poison Cr. Other patches of aspen were present, i.e. Poison Cr., but these were not moist at all. ~~To reach the N fork of~~

Hanken, James

Journal

Museum of Vertebrate Zoology, UC Berkeley, Berkeley, California

~~Perry Aiken Cr. Doug Powell's locality~~

20 Sept Tom Hetherington and I returned from the White Mtns last night, having left in the AM but making several stops en route. We first checked Silver Canyon NE of Bishop for salamanders. We followed the road up E of Laws until the creek disappeared below ground and then worked our way down the canyon. A good amount of water was flowing but access to moist areas was difficult because of dense willow thickets. ~~Even~~ When one could reach likely microhabitats no salamanders were found. I found a kingsnake sunning itself on the creek bank and Tom found a dead shrew beside the stream. We stopped just W of the Yosemite Park boundary after crossing Tioga Pass ~~a~~ to look for termite logs. No termites were found, but Tom collected one juvenile *Ensatina* ~~was~~ under a rather dry log. Also, we collected a DOR *Masticophis taeniatus* on the road out of the Ancient Bristlecone Pine Forest NW of Westgard Pass. A *Sceloporus* had been squeezed out of its stomach when it was killed. We arrived in Berkeley at ~9:30 PM

Journal

1977

Costa Rica

...nken, James
1977

Journal

Green Turtle Station, Tortuguero, Costa Rica

24 August I arrived here late yesterday afternoon via cayuga from Limon. ~~with Fernan~~ ~~Fern~~ Fernando had come for supplies for the GTS and I hitched a ride back with him. I arrived in San José on Aug 18 and spent the next day in " " doing a few errands. The next few days were spent trying to arrange transit to Tortuguero (the itinerary ~~fl~~ flight was temporarily out of service). The most exciting part of my stay in Limon was seeing one of the 3-toed Sloths in the park descend at mid-afternoon to defecate at the base of a fig tree. It descended deliberately despite the taunts and teasing of several local urchins until it reached the base. It remained for ~~2-3~~ 4-5 minutes before heading back up the tree. ~~A pile of feces at the same spot~~ The ~~spot~~ tree base is apparently a favorite spot as there was a small mound of old feces (~1' wide) where ~~he~~ it deposited ~~his~~ that day. I checked the bases of several of the other fig trees and found similar deposits. Possibly the sloths stake out territories in that manner. Life at Tortuguero is essentially unchanged except for official park status and a park HQ. The station is being

Hanken, James
1977

Journal

Green Turtle Station, Tortuguero, Costa Rica

24 August (cont'd) manned by Steve Carr, Anne + Peter Meylan, John Moore, and three other people whose last names I do not know: Alex, Lynne, + Karen. Turtling is very bad this year following last year's busiest season to date. Another oddity is the weather, as this is the driest rainy season recorded in 53 years. Pete Meylan and John Moore found a Lepidoglyphus on a cave on the Cerro Tortug. the other day. I will try to get it for Berry. Also, a group recently took a trip to Las Lomas, the rolling foothills W of here which have been included in the park. They are evidently virgin rain forest with little settlement or other disturbance. Alex brought back a colorful Phyllomedusa(?) ~~and~~ which I will photograph before leaving

27 August Nothing exceptional has occurred since my last entry. I have been relatively grounded by ~~a~~ rather severe sun burn on the topside of my feet which ~~it~~ I incurred during my boat ride here from Limon. It makes wearing shoes uncomfortable, and I must also avoid direct sunlight to ~~so~~ a great extent. Fishing has not been good despite repeated

Hawken, James 1977

Journal

Green Turtle Station, Tortuguero, Costa Rica

27 August attempts at the Boca. So far I've caught just one small jack. Yesterday, John Moore and I walked through the forest behind the fishing camp. ~~I collected~~ *Dendrobates pumilio* was common and I collected ~15 for freezing. I also caught one *Sphaerodactylus lineatus*. We found a slow, muddy, meandering stream S of the lodge which harbored a river otter. John had a better look than I and he is certain it was an otter. The forest ~~lot~~ behind the lodge is quite impressive for both its accessibility and intactness, ~~impress~~ and still contains other impressive wildlife besides the otter, e.g. Karen and Lynn yesterday afternoon saw a tepescuintle (paca) and a trogon beside the little cove S of the lodge. Several of the small ponds (or large puddles) in the forest which are usually flooded at this time were only damp, and I ~~tr~~ dug for caecilians but found none. Today, a few of us are going over to the cave near Turtle Mt. which is said to house bats, lizards, snakes, peccaries, etc.

Hanken, James 1977

Journal

Green Turtle Station, Tortuguero, Costa Rica

30 Aug The weather has changed in the last few days, with rain falling off + on throughout the morning and early afternoon, usually clearing by late afternoon. Steve Carr and I visited a small cave ~~on~~ at the base of the SE face of Cerro Tortuguero on 27 Aug. Earlier this summer a ~~cross~~ group had found two Lepidophyma, three species of bats, a Bothrops, and peccary bones in the cave. It is a small cave, actually a small void in the otherwise solid + vertical rock face at the base of the mountain. The opening ~~is~~ is ~5' x 5' and the chamber extends only ~6' in with a ceiling ~9-10' high. Crevices taper off in various directions from the chamber. There were ~15 bats dangling from the ceiling. Efforts to collect them were unsuccessful as they quickly flew at our approach and couldn't be caught with a hand net. However they could be easily mist netted. We saw another Lepidophyma and a few Eleutherodactylus (25-30 mm SVL). I took one of the latter as it looked different from those commonly found in the forest because of its thin, white vertebral stripe. I put out a mist net between two coconut trees next

Hanken, James 1977

Journal

Green Turtle Station, Tortuguero, Prov. Limon, Costa Rica

30 Aug to and N of the Casa Verde for the previous two nights but as yet have caught only ~~two~~ one bat, a small ~~Phyllostomatid~~ phyllostomatid. Yesterday afternoon Peter ~~M~~ + Anne Meylan and I headed out towards the boat-billed heron rookery along the river towards Barra del Colorado. However, as we had only a 10 hp. engine we ~~cou~~ couldn't make it to the rookery ~~and~~ instead we drove up the Rio Palacio and floated down, ~~do~~, doing ~~at~~ a bit of birdwatching and listening. Nothing unique was seen, but here even the common is worthwhile.

31 Aug I walked the late shift on the beach last night (12-4 AM) which slowed me down a bit this morning, but not entirely. This afternoon Peter Meylan, John Moore, and myself went caecilian collecting in the coconut groves and grazing fields between the Casa Verde and Tortuguero. Specifically we worked the fields just N of the old Saopim lumber mill. I found one large one inside an ant and termite-infested rotting log in the sun in a cow pasture. I can't

Haukon, James 1977

Journal

Green Turtle Station, Tortuguero, Prov. Limon, Costa Rica

31 Aug imagine ~~to~~ why the animal wasn't eaten by the ants if it ~~it~~ either is not noxious to them or ~~he~~ is immune to their stings. Three others were found adjacent to an abandoned home N of Sargim next to the river. Two were found under pile of tin roofing and wood paneling, a third under a rotting coconut tree. In addition, Peter found a rat ~~nest~~ nest inside a rotting log in the cocoa and I collected two juveniles from there. No snakes were seen despite our looking in likely spots and just generally thrashing through the brush. We went fishing at the lagoon later in the afternoon but our ill-~~luck~~ luck continued and nothing was caught

Tala Inn, San José, Costa Rica (Saturday)

5 Sept I arrived in San Jose 3 Sept after flying from Tortuguero to Limon early in the morning and taking a bus to San José later in the day. I had tried to leave the afternoon of the previous day on the plane which delivered Dr. Carr and two other people, but after taking off we had to return to Tortuguero when the oil temp. gauge was reading in the red zone. Henry Prange was at the Tala

Hanken, James
1977

Journal

Hotel Tala Inn, San José, Costa Rica

5 Sept Inn when I arrived Saturday and we had dinner together that evening. Yesterday I made my first stab at Cerro de la Muerte', taking a bus at 9:30 AM from San José to Villa Mills ~~on~~ (Hotel La ~~Ge~~ Georgina), the favorite locality for Bolitoglossa subpalmata. I was able to get a sample of ~25 before lunch (i.e. within an hour) in the heavily cut area just across the road from the hotel. They were found within and under logs, and under rocks ~~&~~ in the cut area overgrown with low shrubs. I also took some under rocks in talus by road cuts along the dirt road leading away from the highway. I checked a few bromeliads which grew on the few remaining low trees adjacent to the clearing but found no sals. ~~After~~ Deforested areas are more common than forest, and I took the opportunity to walk in the forest owned by La Georgina which, although not undisturbed as revealed by several felled logs, is much more intact than the surrounding area. Salamanders were present there, too, although not as abundant as in the more disturbed area. All in all, despite their abundance, they were less

Hanken, James 1977

Journal

Hotel Talla Inn, San José, Costa Rica

5 Sept abundant than P. smithi on Cerro San Felipe. I took a bus back to El Empalme and spent the next two hours looking for sals in the immediate vicinity of the town. I found only two, one beneath moss in the road bank, the second under moss on a rotting log within a few feet of the highway in the center of town. Both animals are coffee-colored with fine light speckling on the upper sides of the feet, resembling B. marmorea; presumably these are the animals which Brad found on the road bank at night last year. ~~No~~ One Bolitoglossa was found under a log, but no other sals were seen. I'll return here next week and look again, including some night work. Carla arrives from Trinidad today. I inadvertently lost the exact time of her flight so will try my best to find her.

Flor-Mar Super Soda, Monteverde, Prov. Puntarenas, Costa Rica

8 Sept Carla Markmann & I arrived here in the afternoon of 6 Sept after a day's drive from San José. We left the Pan-American highway at

Hanken, James 1977

Journal

Flor-Mar, Super Soda, Monteverde', Prov. Puntarenas, Costa Rica

~~8~~ Sept

where a sign points to the town of Guacimal. We took the road to Guacimal and then on to Monteverde. The road is unpaved but negotiable in an rented Toyota sedan, albeit quite bumpy. All of the original forest ~~along~~ below Monteverde is ~~been~~ cut for grazing or agriculture, with only patches remaining along stream courses or between ~~of~~ pastures. However, logs are abundant and there is some second growth which ~~might~~ might be good for sals. After arriving here we walked up towards the reserve and spoke to Walt Guendon and his wife, who have live at their farm Monteverde Gardens for 18 years. They are both amateur naturalists and have collections of all kinds of vertebrates + insects. I inquired about salamanders and Walt described one which must be B. robusta which he used to see in his wood pile. We checked the woodpile but couldn't find it. Leaving their home we did a little birding and saw, among other things, a pair of quetzals in a clump of trees beside a cleared field. Yesterday, we spent the morning looking for sals in the fields and forests about Walt's house, but to no avail. It hasn't rained here in days and the

Hanken, James 1977

Journal

Flor-Mar ~~Super~~ Soda, Monteverde; Prov. Puntarenas, Costa Rica

8 Sept ground is unseasonally dry. Often the substrate below logs is essentially dry. We found no sals but were given an egg clutch of B. Robusta by Thomasa Guendon (Walt's nephew) who had discovered it a few days earlier while clearing a field for grass. He showed me the log where the sal had been found and replaced, but it was no longer there. The log was ~1' wide and 3-4' long at the edge of a clearing adjacent to mature forest (2nd growth?) N of Walt's house. While looking we also collected a Geoglus, Anolis, and two Eleutherodactylus. We then moved on to the park where we proceeded to wander almost aimlessly on trails for several hours. Besides the rain forest itself, a highlight was finding a troop of white-faced monkeys in Chomogo Swamp. We returned to the Super Soda at ~ 3:30. At ~ dusk Carla set one mist net along the road to San Luis ~100 m. N of the Super Soda. One bat was collected even as she set the net. Five more were collected in the next two hours before they ~~hung~~ "hung-up". An additional two were found in the net this morning. See her catalogue for ID.

Hanken, James 1977

Journal

Hotel Tala Inn, San José, Prov. San José, Costa Rica

9 Sept Carla and I returned here late yesterday afternoon after leaving Monteverde in the morning. We stopped at a couple places along the dirt road between Monteverde + Guacimal but the ~~to~~ lack of rain and strong drying winds had dried out all the ~~p~~ potential salamander habitat. We stopped at the beach at Puntarenas for a swim. Returning on the Pan Am highway we stopped at one mossy road cut W of San Ramon. There was deep moss in several places but it was dry and no animals were found beneath it or ~~in the~~ in the road bank itself. A few small seeps were raked through but with no luck either. The dry weather is apparent all over the place.

11 Sept Carla and I drove to the top of Volcan Poas on 9 Sept. The road was once paved to near the top ~~an~~ but now is marred by several deep potholes. Beyond the pavement the road is wide and of level gravel. The weather was overcast with a dense fog and intermittent rain. We collected a sample of 8 Bolitoglossa subpalmata from along the road between the Park visitor's center and the crater overlook. All were found under

Hanken, James 1977

Journal

Hotel Tala Inn, San José, Prov. de San José, Costa Rica

11 Sept pieces of wood either next to the gully beside the road, on the road bank, or in the parking area by the crater overlook. None were taken under rocks although many were turned. The coloration of these beasts is markedly different from those on C. de la Muerte, with the only red seen only on the ~~s~~ smaller ones (hatchlings), and even there it is mostly confined to the limb bases. Also, these ~~sal~~ sals are smaller; at least one mature ♂ as told by mental gland was distinctly smaller than those from the Cerro. Carla also found one *Rana vibicaria* under a piece of ~~w~~ wood and saw another. After leaving the park we stopped at several localities to look for sals but found none. One spot was the road bank and adjacent cleared field with abundant felled logs just outside the park entrance. Here, Carla found one juvenile *Bansia*. Farther down the road we again stopped to turn cover beside the road and work through rotting logs in an adjacent ~~clear~~ field cleared for cattle grazing (although with some cypress left remain standing) ~~bu~~ ~~to~~ Here, Carla found an *Anolis* under a log. After this the rain became more severe and constant and we

Hanken, James 1977

Journal

11 Sept ~~Hotel Tala-Inn San José Prov. De San José, Costa Rica~~ decided to return to San Jose.

Today, I made an ill-fated attempt to get to Irazu by bus. Arriving at the Cartago bus station at ~ 8 AM I was told ~~that~~ the next bus to Irazu was at 1 PM. I decided to return to San José, but stopped along the way at Tres Rios to poke around in any available habitat. Little of this exists, as most of the land is occupied by either fenced-in homes + gardens or ~~coffee~~ hillsides planted to coffee. The latter might be productive but I doubt it as the coffee fields differ from those which I've seen in Mexico in that here almost all trees other than coffee + banana (for shade) have been removed and there is little litter apparent. I did turn garbage and rotting vegetation in a vacant lot along the Pan Am highway just E of town and collected two snakes under-brush. I returned to San José, ate breakfast, and re-tooled for a trip by bus to Turrialba which ~~Once the~~ I reached at ~12 noon. I walked back from the bus station towards San José where the road begins a steep ascent and there followed a stream through a partially cleared hillside turning any available cover.

Hawken, James 1977

Journal

~~7F~~ Hotel Tala Inn, San José, Prov. de San José, Costa Rica

11 Sept The place looked like good habitat for at least some herps but none was found. I continued up the hillside for ~ ½ mile and then worked through a small clump of planted pines. From here I descended through a cleared field to the highway. ~~Nothing~~ ~~In~~ At this point nothing had been taken and because of the constant rain I returned to Turrialba and caught the next bus to San José. The definite high point was seeing a flock of oropendolas at the base of the hillside by the stream, and several magpie jays.

12 Sept Another frustrating day today. My rental car arrived at ~ 11:30 AM, and I left soon after for a locality suggested to me by Brad which lies N of the town of San Ramon (W of San José on the Pan-Am highway). Supposedly Oedipina and Chiropterotriton are both found between the towns of Los Angeles Norte + San which lie between 5-10 km (by road) N of San Ramon. However, essentially no original forest remains, with there being instead cow pastures, corn fields, vegetable fields, or cafetals. Little potential cover remains

Hawken, James 1977

Journal

Hotel Talamanca, San José, Prov. de San José, Costa Rica

12 Sept to be turned, ~~and~~ I poked around in various places (pastures, road cuts + banks, a cafetal w/bananas) but found nothing and left in frustration after a couple of hours - Shades of Panama '75. I returned to San José at ~4:30 determined to spend the rest of my time working higher elevations in the hopes of getting more samples of B. subpalmata

Hotel La Georgina, Villa Mills, Prov. de Cartago, Costa Rica

14 Sept I've stopped here for lunch and am taking the opportunity to enter yesterday's notes. I left the Tala at ~6 AM and headed directly for Turrialba. After breakfasting there I followed the signs in town to Volcan Turrialba and Santa Rosa. One is quickly found on Rte 230, a good gravel road which runs between Turrialba and Cartago via the town of Santa Rosa, Santa Cruz, and Capellades. Immediately beyond Santa Cruz the road descends to a bridge crossing the Rio Aguirre. ~~At~~ Because of the steepness of the ravine the original forest remains uncut, and at the crossing one can walk a few feet into the forest along trails before they meet the

Hanken, James 1977

Journal

Hotel La Georgina, Villa Mills, Prov. de Cartago, Costa Rica

14 Sept creek. There is also several meters of nice, wet, dripping road cut along the road on either side of the river. The road to the volcano leaves within a km or two of the river crossing. It's inconspicuous aside from a pulperia at the junction, and one should ask for the Hacienda Palomia when looking for the turnoff, as the " also has its entrance here. Within a km the road ~~to~~ became untraversable in my Toyota sedan, but can be easily traveled in a 4-wheel-drive vehicle w/good clearance. I left my car and walked up a few km. along the road ~~...~~ (~~1/2~~ 1-200 ~~300~~ m in elevation) where ~~it pass~~ the adjacent land was again cut for pasture land. However, there was more cover available and I turned a good deal but found nothing. Several mossy road cuts, some quite tall + wet were inspected and that way I found a snake and anole. After ~ ½ hour I turned around and returned to the car. I checked ~~the~~ several road cuts (including the one by the river) ~~both~~ on the way down, and also returned last night with a lantern to check them again. No sals were found, but I did take a large Eleutherodactylus perched ~2' up on a ~~dripping~~ ~~wet~~ road cut below a seep. I then spent a rather uncomfortable night in Turrialba

Hanken, James 1977

Journal

Hotel Tala Inn, San José, Prov. de Cartago, Costa Rica

16 Sept I left Turrialba on the morning of 14 Sept for Cerro de la Muerte. ~~Walking~~ There is a patch of forest immediately NW of the junction of Hwy's 2 & 12 in El Empalme which, while not undisturbed, has a good canopy over with abundant fallen logs & bromeliads ~~on the~~ on an E-facing slope facing a small stream. I looked in the usual spots and found 4 Bolitoglossa under small pieces of cover or near the surface of rotting logs. Nothing was found in bromeliads, ~~or~~ nor in cover objects in the more open areas. I continued on to Dave Wake's locality 22 km S of El Empalme where the highway crosses a river (Rio ~~Frio~~ Humo?) and, on his advice worked ~~road cuts~~ talus. The ravine is well-forested, but steep and difficult to move in, and so I was limited to working a talus hillside covered with small undergrowth ~~on the N~~ N of the creek and W of the road. However, by raking in the talus I found 15 Bolitoglossa in ~1 hour. They are quite variable in coloration, but most have variable amounts of red coloration on the limb bases and I assume they are all B. subpalmata. I continued on to Villa Mills for lunch and then checked

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Journal

<u>Hotel Tala Inn, San José, Prov. de Cartago, Costa Rica</u>

16 Sept a few localities within 10 km S of Villa Mills, but without success. I returned to " " and waited-out the afternoon's rain at the hotel before ~~set~~ returning to San José. I stopped at El Empalme to work the road out with a lantern for but found no sals. Yesterday I drove to ~~the~~ the peak of Irazu along the main road out of Cartago in an attempt to get another sample of <u>B. subpalmata</u>. The slopes, however, are nearly completely denuded of forest to just below the paramo of the peak. I checked a few different areas above 3100 m where there is still oaks standing with abundant logs as cover but found nothing. I then returned to San José for quinitze.

Journal

1978

Mexico

Hanken, James 1978

Journal

Hotel Ruiz, Oaxaca, Oaxaca, Mexico

27 June I am here with Brad Shaffer as part of a joint collecting trip to get animals for our respective thesis research, he for Ambystomatids, myself for *Thorius*. The trip began on 4 or 5 June in Chicago from which we drove to Tempe, Ariz. ~~for~~ for the joint herp meetings. After almost a week we departed for Mexico, crossing the border S of Deming, N.M on ~12 June. From then until ~~to~~ yesterday most of ~~our~~ our time has been spent collecting Ambystomatids from throughout their range in Mexico, beginning with the Sierra Madre de Occidental of Durango + Chihuahua, south through Zacatecas and Michoacan, then to the Mexican highlands ringing Mexico City, and lastly to Rio Frio on the road to Puebla. The collecting was interrupted by 1½ days in Mexico City spent obtaining collecting permits. See Brad's notes for any details ~~up~~ up till now.

Today we began looking for *Thorius* by visiting a locality visited by Dave Wake and Jim Lynch 2 years ago from which they obtained 5 specimens of *Thorius*. Electrophoresis revealed them to be 2 species, and we went back to get more specimens of each. Our locality is 15.5-15.7 mi W (by rd) Zaachila,

Hanken, James 1978

Journal

Hotel Ruiz, Oaxaca, Oaxaca, Mexico

27 June presumably ~~so~~ the same as Wake + Lynch's locality of 25.4 Km W. Zaachila is reached by a paved road SW out of Oaxaca (~20 miles) and the road W out of ~~town~~ Zaachila leaves the paved road by a gas station at the N end of town. The road is graded dirt, generally easily passable but for a few rough spots; ~~but~~ we traversed it in Brad's Datsun station wagon. The road, however, is slow, and the drive from the ~~locality to~~ Zaachila to the locality takes ~90 minutes. The forest at the locality is mostly mature and second growth oak, with some madrone and pine. Evidence of recent cutting is seen in the abundant stumps ~~and~~, fallen logs, and piles of wood chips. All of the herps collected today were found by turning & rotting logs and other debris in the oak forest. An adjacent pine stand held nothing, although earlier I found a P. belli under a fallen pine log in a remnant small cluster of pine on a steep slope in a small village ~1 mile farther along the road. Electrophoretically, these two Thorius sp. seem closest to those on C. San Felipe. The habitat here is most reminiscent of the 4 Km W La Cumbre locality, although the adjacent pines ~~are~~ resemble more higher-up on the Cerro.

Hanken, James 1978

Journal

Hotel Ruiz, Oaxaca, Oaxaca, Mexico

27 June We found only 6 Thorius; which is few considering the abundant cover and time spent looking for (~ 2-3 hours). Possibly they are more dispersed in the wet season when there are more suitable microhabitats (both yesterday and today, terrific downpours occurred in the afternoon and early evening). See sp. acc't for color notes.

Restaurant Almita, Ixtlan de Juarez, Oaxaca, Mexico

28 June Brad and I have stopped here for dinner after driving from Oaxaca City. We were late leaving this morning as we were involved with picking up laundry, fixing a flat tire, fixing a busted tail pipe, etc. Our main concern was obtaining additional T. pulmonaris from intermediate elevations on C. San Felipe. We collected at the locality visited by Doug and me two years ago (4.2 mi. S. La Cumbre) and at a locality between there and La Cumbre, and 300m higher. At both places animals were hard to find; 7 were taken in all, including several found in wet leaf litter. Apparently the animals are not concentrated under cover objects because of the wet weather, the habitat doesn't strike one as good for the

Hawken, James 1978

Journal

Restaurant Alvarita, Ixtlan de Juarez, Est. Oaxaca, Mexico

28 June salamanders, it being rather scrubby and xeric, with scattered low pines, madrone, and other sclerophyllous plants. The second locality pushes the range of *T. pulmonaris* farther up the mountain approaching *T. nasuvalis*. At the second locality we collected an additional 3 skinks and 1 *Thamnophis*. Continuing on, to Ixtlan ~~it was~~ ~~apparent the what~~ a rain shadow effect was apparent on the NE side of C. San Felipe as at ~~22~~ 2200 m. there were already few pines, and almost chaparral like vegetation: a good barrier bet/ the sp. on C. San Felipe and those on C. Pelon.

mi	locality →	elev. (m)
0	jct 175+190	1600 - adjusted to this
7.5	El Estudiante	2050
12.9	La Cumbre	2740
16.5	Loma Grande	2510
17.8	El Punto	2400
19.5	Las Animas	2410
20.3	El Cerezal	2360
31.7	river below Guelatao	1570
33.7	Guelatao	1800
35.5	Ixtlan de Juarez	2020

Hanken, James 1978

Journal

Oaxaca City Oaxaca Mexico

30 June Brad and I returned last night from a day an a half on Cerro Pelon attempting to fill in several remaining gaps in species distribution. We were, for the most part, unsuccessful, having gotten ~~ans~~ thorius at but one locality. ~~The~~ We worked several localities bet/ 6.4 and 12 miles N Guelatao but got no thorius. The ~~ans~~ woods were very wet and it rained almost constantly. Inquiring at Maclin, we were told by a lumber mill worker that the heavy rain of late was greater than normal and due to a terrific storm hitting the area. Possibly the extreme wet has allowed the thorius to move into the litter and remain difficult to find. ~~We did~~ At one locality (see catalogue) we did collect two adult P. belli (♂+♀) together under a large log, and several skinks, Sceloporus, snakes, and a rattlesnake by working rock rubble along the road. ~~After eating~~, At Maclin we were told that the storm had caused a mudslide on the cloud forest side of C. Pelon, closing the highway. We drove to the slide and found it at 36.8 mi. N Guelatao, or only a few miles above where I need cloud forest Thorius. We turned back deciding to

Hanken, James 1978

Journal

Oaxaca City, Est. Oaxaca, Mexico

30 June return to the N slope in a few days when the road was repaired. Also, instead of spending the night on C. Pelon we returned to ~~Oa~~ Oaxaca last night. Before leaving C. Pelon we visited several localities between the top of C. Pelon and 18.9 mi. N Guel in an attempt to get intervening localities for *Thorius* sp. "lg, dark." We were successful at one place, 29.1 mi. N of Guel (~~ca~~ ~1.5 mi. S top of C. Pelon) where we collected 3 *Thorius* from a drenched slope in a pouring rain. ~~We~~ Brad also collected one *P. juarezi* under a toadstool, (the first, I believe, found S of the top C. Pelon). We also visited a locality just S of Puerta ~~de~~ del Sol, near the bottom of the "saddle" on C. Pelon. Apparently, the gap in the distribution of the large sp. is real. There was, in addition, a conspicuous absence of *T. macdougalli*, including one last visit made at dusk to Llano de las Flores.

mi	locality	el. (m)
0	Guelatao	
1.8	Ixtlan de Juarez	2010
2.7	river	1950
6.6	bus stop	2310
10.6	bus stop; turnoff to San Juan Analco	2630
11.1	abandoned house	2690

Hanken, James 1978

Journal

Oaxaca City, Est. Oaxaca, Mexico

30 June

mi	locality	el (m)
14.7	turnoff to San Juan Atepec	2920
15.4	Llano de las Flores (1st entrance)	2890
16.2	(2nd ")	2890
17.0	Pajaro Azul	2910
21.2	turnoff to San Juan Lupina	2920
24.4	Puerta del Sol	2760
24.6	turnoff to Macquiltianguis	2750
25.8	Machin	2760
27.7	bus stop	2780
29.0	turnoff to San Pedro Yolox	2860
30.1	CP (top)	2950
30.8	river	2820
35.7	bus stop	2260

30 June - 1 July ~~1-2 July~~ ~~1-2 July~~ (written 4 July)

attempt to visit Santo Tomas Teipan, Oaxaca, Mexico

Brad and I left Oaxaca in an ill-fated attempt to collect _T. minutissimus_ at the type locality. It is reachable ~~from to~~ by a dirt road leaving the Pan-Am highway (Mex 195) less than a mile west of La Reforma, which is ~30 miles W of ~~El~~ Tehuantepec. The road sign at the entrance designates 30 Km to Sta. Maria Ecatepec, and Sto. Tomas Teipan may be reached by driving past Sta Maria. Unfortunately, ~6 mi. S of the main highway our path was stopped by a

Hanken, James
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Journal

attempt to visit Santo Tomas Teypan, Oaxaca, Mexico

30 June-1 July river crossing too deep for us to attempt a crossing in our Datsun stationwagon. It may be crossed, though in light trucks or 4-wheel drive vehicles. A man at the crossing said there were no buses to the town, and we decided to try heading into the mountains farther south. Half-way to Tehuantepec, at Magdalena Tequisistlan, we took a dirt road to Asuncion Tlacolulita in the hopes that it might continue and climb into the mountains. However, by Tlacolulita, the road still had not reached >1000 m elev. and apparently wove its way S through the mountains avoiding high ground. Apparently, by this point the Sierra Madre del Sur has begun dropping to the level of the Isthmus. We returned for the evening to sleep near La Reforma, made exciting by my having forgotten my sleeping bag, ~~and the~~ rain, and many mosquitoes. The next morning we began returning to Oaxaca, stopping at several places to inquire about other roads into the mountains. The most promising lead is a road leaving Mex 195 at El Camaron, heading towards San Carlos Yautepec to the S. We were told that beyond San Carlos the road climbs, but that one needs 4-wheel drive to traverse the road. This, combined with a quickly developing case of

Hanken, James 1978

Journal

attempt to visit Santo Tomas Teipan, Oaxaca, Mexico

30 June-1 July turista in myself made us decide to return to Oaxaca that morning. ~~By~~ Santo Tomas Teipan is apparently a dry season locality

10 miles W of San Vicente Lachixio

2 July My aforementioned case of turista blossomed sweetly upon our return to ~~Both~~ Oaxaca, and we thought it best that I stay in " today and recover while Brad visited San Vicente alone. He had poor luck, collecting only 4 animals where 2 years ago Wake, Lynch, etc. collected over 60. What gives? He said that the locality is good for salamander collecting: abundant fallen logs, bark, etc, as a result of ~~tem~~ lumbering. Also, the road is OK. He did get 4 Pseudos (similar to those from W of Zaachila), a couple ~~Ge~~ Gerrhonotus (Barisia?), ~~frogs~~, and several snakes, and a shrew. See his notes for details.

vicinity of Totontepec (out of Mitla), Oaxaca, Mexico

~~3-4 Jul~~
3-4 July We left yesterday to visit several localities suggested by Johnathan Campbell of U of Texas where he, last April, collected Thorius and Pseudos, including an aquatic Pseud. One gets there by taking the Pan-Am highway (Mex 195) SE out of Oaxaca

Hanken, James 1978

Journal

Vicinity of Totontepec (out of Mitla) Oaxaca Mexico

3-4 July ~30 miles to Mitla. Heading through Mitla, one then continues on a dirt road towards Zicatepec Mixes (~~G~~ referred to as Mex Hwy 190). The road is graded dirt, and one stays on it for ~ 54 miles through several towns a sign indicating a left turn towards Totontepec. From here another dirt road climbs a bit, and then begins its descent to the Caribbean lowlands. Totontepec lies ~15 mi. NE of the turnoff, at 1950 m. Ascending to the turnoff (2590 m) one passes from the arid Oaxaca Valley through pine-tan oak forest (reminiscent of that on C. San Felipe), especially ~~at~~ around the town of Tamazulapan (2130 m. el) and finally to increasingly wetter, more dense, taller ~~oak~~ cloud forest, very similar to C. Pelon. Dropping down to Totontepec one passes through the wet cloud forest and passes several waterfalls and creeks draining the mountain. Here and there the road gets very muddy. ~~In the afternoon~~ Yesterday afternoon we worked ~~ed~~ a slope in the rain at 13.6 mi. NE Tamazulapan (2570 m.) and found nothing. This is also the site of a ~~wa~~ stream crossing the road and a clear pool 10-20' across. This might be one of Campbell's aquatic breed localities but we never had a chance to return here last night, although we seined it in vain today.

Hanken, James 1978

Journal

vicinity of ~~Toal~~ Totontepec, (out of Mitla) Oaxaca, Mexico

3-4 July After eating dinner in Totontepec we returned last night and worked several streams (2200-2650 m) between 3.2-11.4 mi. SW of Totontepec for aquatic pseuds. We saw none, but even if they occur here I doubt that we would have seen them as the stream were full, rushing, and difficult to work. Our last stop was 11.4 mi. W Totontepec where we worked the roadcut for pseuds. The animals were out in the constant downpour and we collected 7 animals, 6 apparently P. "lumpy", and 1 other more slender species. This morning the rain continued heavily and we worked again for thoriis. None were found, but more pseuds were common. They were most readily found in a recently cut forest area above the road bank of last night. this is most easily reached by walking down to a few ~~de~~ abandoned houses ~100' from the locality. there, across the road a broad dirt path ~~hear~~ leads directly to the cut area. Pseuds were found most commonly by peeling bark of fallen logs. Several were often found together, ~~and as~~ adults and juveniles were taken. Here most animals seemed of the more slender species, with only 1 or 2 "lumpy's." We stopped at one more locality at ~1 mile SW of this place (2540 m.), where the road crosses

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Journal

vicinity ~~of~~ of Totontepec (out of Mitla) Oaxaca, Mexico

3-4 July a ridge and there is a small patch of relatively level forest to work. The forest is of the same well-developed, tall, dense, wet forest found on C. Pelon (~~top~~ near the top on the S side) ~~and on~~ Here, Brad found 1 Thorius under ~~of~~ a log. It ~~seem~~ most closely resembles T. macdougalli of C. Pelon, which accords well with the ~~relat~~ similarities manifest by the pseuds and vegetation. We also collected a Barisia, 3 Sceloporus ~~and~~ 1 Thamnophis, and 1 Eleutherodactylus. We left here for Oaxaca stopping only to: 1) seine the river pool for aquatic pseuds (see above), 2) work the pine-tan oak forest near Tamazulapan, and 3) work another pine-oak habitat farther towards Mitla ~~,~~ and lower in elevation, all unsuccessfully.

vicinity of Tejocote, Est. Oaxaca, Mexico

5 July Today Brad and I worked the locality of 2 years ago, 1.5 Km N Tejocote on the Pan-Am highway NW of Oaxaca, at which, ~~2 years~~ we two years ago collected one Thorius. We worked the same exact slopes, though spending less time in the steep oak-bromeliad forest and more in pines, and found nothing. Later in the day we worked the slopes behind some houses NE of the highway across from the previous localities, and found

Hanken,
James
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vicinity of Tejocote ~~Tlaxiaco~~, Est. Oaxaca, Mexico

5 July but one salamander, a tiny Pseudoeurycea. At the first site there was a noticeable dearth of cover objects to turn, but at the second place there were several fallen logs, stumps, etc to work – just no salamanders. It's all very frustrating. At other times in the day we worked other localities along the highway within a few miles of Tejocote – again without success. Later in the afternoon we left for Tlaxiaco, getting as far as Asuncion Nochixtlan where we camped

vicinity of Tlaxiaco, Est. Oaxaca, Mexico

6 July Today we looked for Thorius in the pine forest N of Tlaxiaco, on the vague recollection I have of being told by two U of Minn. graduate students two years ago in Oaxaca that they found Thorius in the mountains above Tlaxiaco. Neither Brad nor I was feeling well today, making the experience particularly uncomfortable when we found no Thorius. We worked a couple localities within 6 miles N of Tlaxiaco. Here there is a loosely populated pine forest at slightly over 2200 M, however it was very dry and there was little good cover to turn. We returned to Oaxaca later in the day. Possibly there are Thorius along the road S of Tlaxiaco (S of

Hanken, James 1978

Journal

Vicinity of Tlaxiaco, Est. Oaxaca, Mexico

5 July Putla ?) but I completly forgot to check the map after an initial failure and only thought of the idea of heading S only after we were close to Oaxaca. That would be a good locality to hit in the fall.

11.1 mi NE of San Juan del Estado, Est. Oaxaca, Mexico

7 July Brad and I ventured today to a locality visited by Wake, Lynch, et al 2 years ago, from which they obtained 1 Thorius. The locality is near Oaxaca City, easily reached by road, although beyond San Juan del Estado the road is dirt, ~~and often~~ steep, and often bumpy making travel ~~slo~~ slow. At ~9 mi. past SJDE a fork in the road appears. We first took the right fork, continued on ~1 mile, and worked a forest ~~at 2600 m~~ unsuccessfully. Returning to the fork we took the other road for 2.6 miles and worked a very good looking habitat at 2690 m. The forest is tall with abundant logs and stumps. A few Thorius were found in these microhabitats, but by far most (>50 were found by us in less than 2 hours by working by hand through extensive piles of wood chips in the leaf litter. Presumably when the forest is wet enough, the Thorius can leave ~~them~~ logs, etc. for here. We returned to Oaxaca that night

Hanken, James 1978

Journal

<u>N slope of Cerro Pelon, Est Oaxaca, Mexico</u>

8 July Brad and I stopped at several localities below the top of Cerro Pelon to get more of the two cloud forest species from old and new localities. We began at the 52 Km N Guelatao locality, where we found T. sp "gold" abundant both under rocks beside the road and in the adjacent forest. Additional specimens of ~~the~~ ~~ch~~ T. sp "cloud" were also taken (to be confirmed by electrophoresis). In one instance, one of each species were found coiled together beneath a log. Both <u>P. juarezi</u> and <u>P. "lumpy"</u> were also found in the roadcut and beneath roadside rocks. We next stopped at the ~~4 km~~ 54 Km N Guel locality and found 3 additional <u>thoreius</u> (see color notes). Between here and the 65 Km N Guel locality we worked a new locality and found one additional <u>thorius</u>, 2 P. juarezi, and an <u>Eriloboa</u>. At this locality a footpath leads into ~~from the~~ the forest from the ~~NE~~ ~~side~~ of it (when driving N) and is ~~so~~ a relatively level and easily traversed entrance into the intact forest. The sals were found by turning small, fallen branches and shaking bromeliads on the ground in the forest.

Hanken, James 1978

Journal

8 July

N slope of Cerro Pelon, Oaxaca, Mexico

locality	mile	elev.(m)
Guelatao	0	
bus stop	35.6	
house-chapel	36.9	2190
bus stop	44.5	1810
Campamento La Esperanza	47.4	1680
Vista Hermosa	49.8	1500
Metates	56.0	900
bus stop	62.0	640
San Mateo Yetla	65.4	210
river at Valle Nacional	66.9	180

Hanken, James 1978

Journal

N slope of Cerro Pelon, Oaxaca, Mexico

8 July The Eptlobra was found ~~by~~ ~~in~~ beneath a rock beside the road. At 65 Km N Guel we found one thorius (cloud) beneath bark on a fallen log a few feet above the ground. We visited an additional locality below 65 Km N Guel and above Vista Hermosa ~~too~~ but found no thorius. Workable localities are hard to find because of the steep slopes, but even here, where access was possible, no animals were found despite our thorough search of several bromeliads and other available cover. At this point the rain, which had been pouring steadily for ~5 hours, became unbearable and we quit for the day and headed into Tuxtepec ~~this marked the~~ (including some successful night driving and a stop to collect from a breeding chorus of several frog species) ~~to~~. This marks the end of the thorius part of the trip.

Tuxtepec to Mexico City, Mexico

9-12 July Our last 4 days together were spent hitting additional Ambystoma localities, collecting successfully at Lake Alchichica, Puebla, and near Lake Zempoala S of

Hanken, James 1978

Journal

Tuxtepec to Mexico City, Mexico

9-12 July Mexico City. I flew back to Berkeley on 12 July, leaving Brad for his rendezvous with Louise Whitaker.

Restaurant Colon, Tlaxiaco, Est. Oaxaca, Mexico

5 December I arrived here this morning with Tom Hetherington after camping along the highway ~30 mi N of town last night. We are here to collect Thorius in what will hopefully be the last field trip required for my electrophoretic work. We arrived in Mexico City early AM, 3 Dec. and spent the rest of the day sightseeing. We stayed over in the apartment of a friend of Gary Wolfer's that night, and yesterday morning submitted an application at the permit office and filled the nitrogen tank before driving to Oaxaca. Only things of note were the cactus forests along the highway SE of Izucar de Matamoros, and seeing a rufous-crowned motmot before Acatlan

Hotel Mansion Imperial, Oaxaca, Est. Oaxaca, Mexico

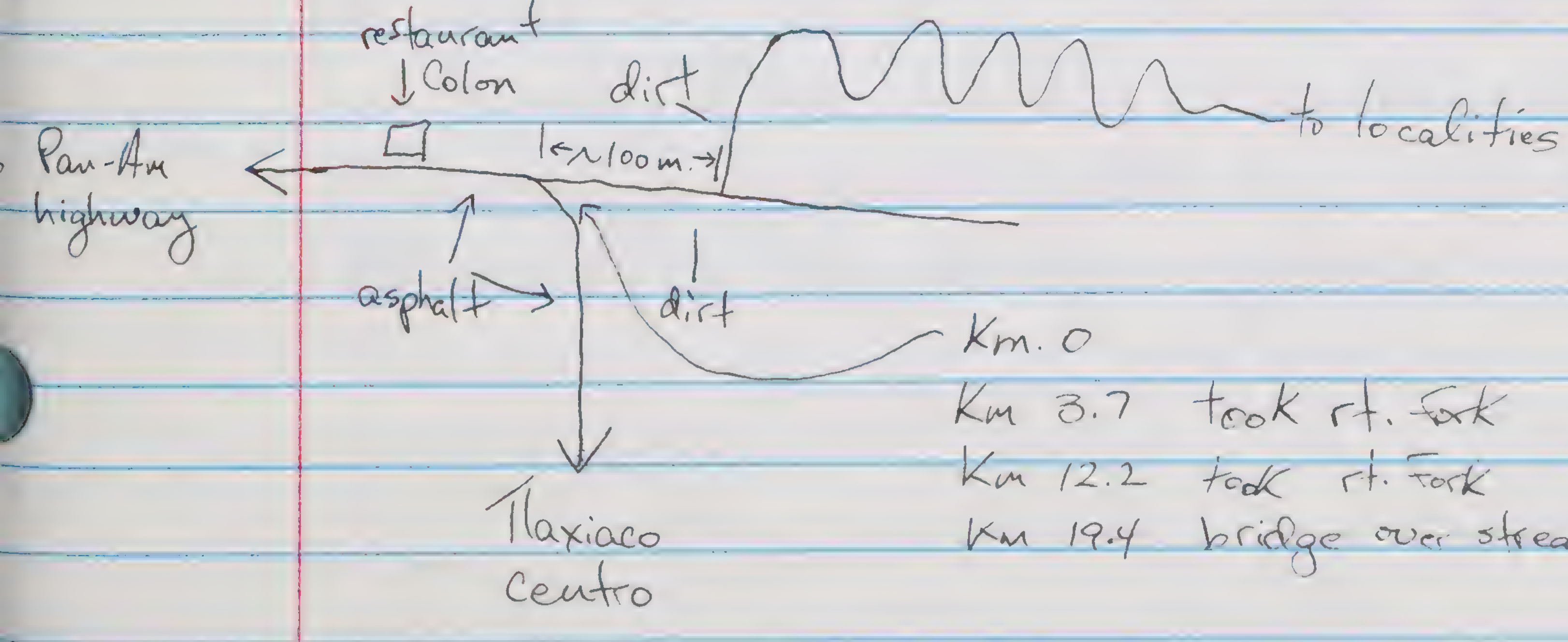
6 December Yesterday Tom and I collected salamanders outside of Tlaxiaco, in the mountains SSE of town in the direction of the town of San Miguel El Grande (see map below). The road first climbs out of Tlaxiaco, then drops to a river crossing, then climbs steeply to tall mountains

Hanken, James 1978

Journal

Hotel Mansion Imperial, Oaxaca, Est. Oaxaca, Mexico

6 Dec visible from town. We checked four localities. The first was relatively low, at m, and we found no thorius. The three higher localities (see catalogue) had thorius, apparently the very large species found from Guerrero east to Suchixtepec in the Sierra Madre del Sur. The habitat in general was the typical pine-oak forest. The best collecting spots were partially disturbed slopes with abundant fallen logs. Thorius were occasionally found under bark, but most abundantly inside ~~a~~ fragmenting fallen logs. Ten or twelve were often taken together in the same crevice. ~~On the~~ We collected a total of ~85. On the other hand, 5 Pseudoeurycea were found, most by peeling bark of fallen logs, the others under fallen logs. Although this is the dry season, microhabitats were moist and the animals easier to collect than in summer (wet season).



Km. 0
Km 3.7 took rt. fork
Km 12.2 took rt. fork
Km 19.4 bridge over stream

Hanken, James 1978

Journal

Hotel Mansion Imperial, Oaxaca, Est. Oaxaca, Mexico

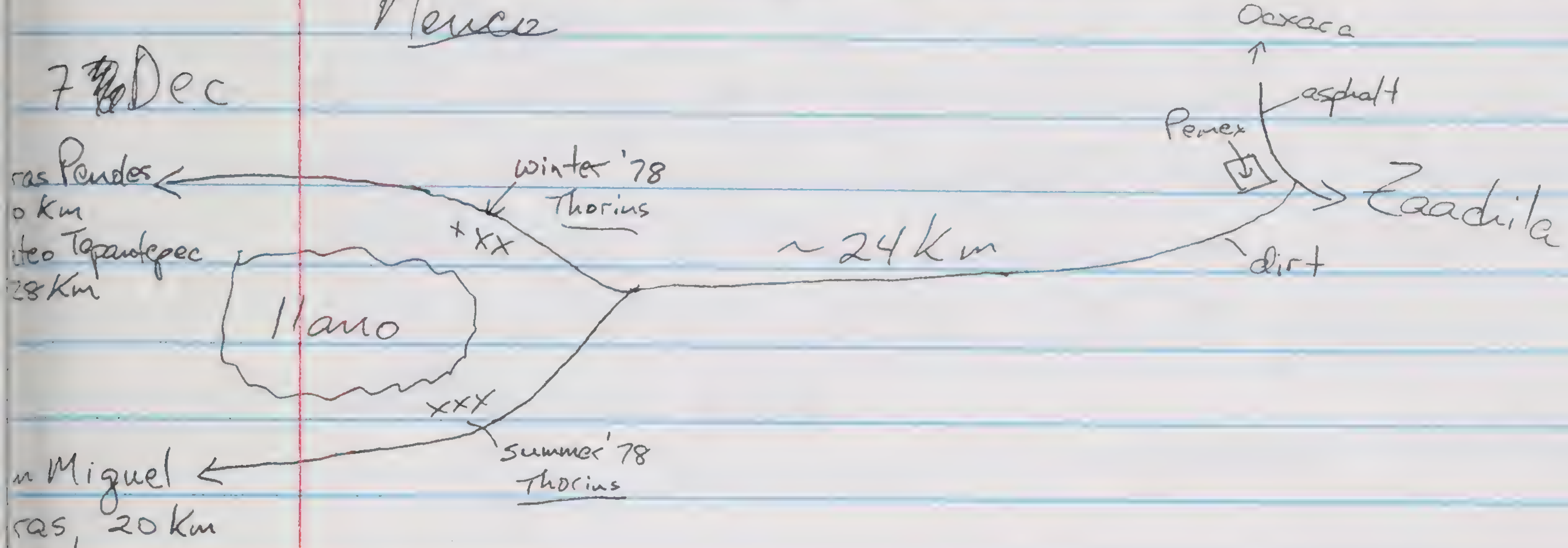
7 Dec Yesterday Tom and I drove to the locality ~25 km W of Zaachila ~~from~~ which ~~it~~ has proven difficult to obtain adequate *Thorius* samples despite the presence of two species. After working the forest adjacent to the meadow, both next to the meadow and higher up, we returned to the fork in the road and took the right turn. The road continues along the high llanos, never getting much higher than the first locality. We checked one or two forested areas (thick pine-oak and just pine) but found only one *Pseudoeurycea*. We then returned to the first llano, but checked the forest along the right fork. This was the same dense pine-oak madrone forest with ~~a~~ abundant herbs, but the forest was much drier than the first locality. We managed to find 9 *Thorius* on one slope in this spot, ~~a~~ one in wood chips, the rest under bark or fallen logs; a very localized abundance considering how many other areas we worked nearby. Only one animal conspicuously appeared different from the rest (see sp. acc't). ~~Is~~ Is this the second species?

Hanken, James 1978

Journal

Hotel Mansion Imperial, Oaxaca, Est. Oaxaca, Mexico

7 Dec



Hotel Mansion Imperial, Oaxaca, Est. Oaxaca, Mexico

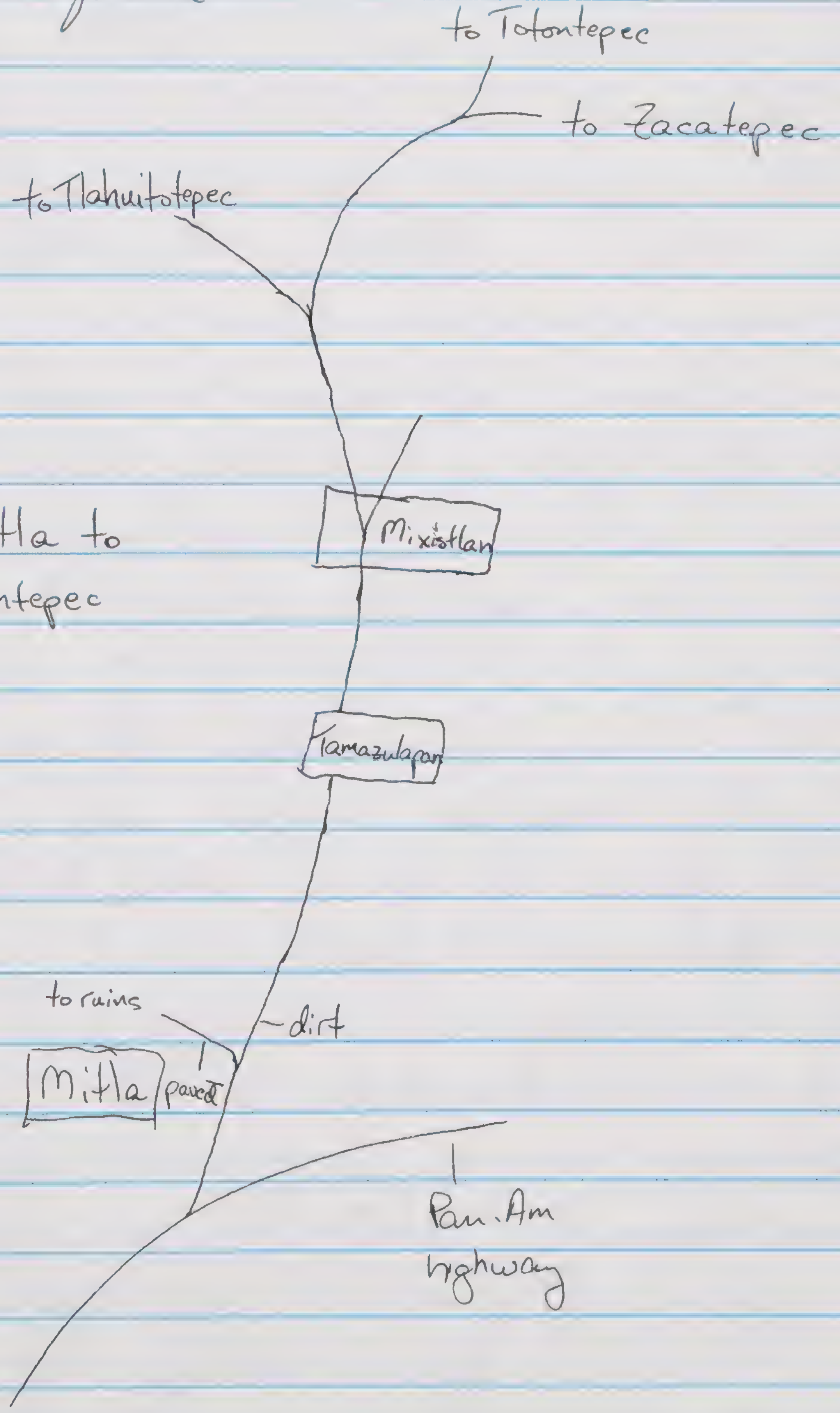
9 Dec The previous two days were spent in the Totontepec area trying to get a decent Thorius sample and look for the elusive aquatic Pseudoeurycea. In contrast to the summer, the skies were almost cloudless and the area very pleasant for working. ~~the~~ For Thorius we worked primarily the two salamander localities of last summer. Over the two days 19 Thorius were found, most from the lower site. Here, again, P. juarezi was more abundant, found both under bark and on the ground. Thorius was found exclusively on the ground under logs or in piles of wood chips (and one or two under rocks). Wildflowers were abundant and we photographed many. During the night of 7 Dec we checked several streams for the aquatic Pseud. but found none. The water, though less than the summer, was ~~sol~~ still flowing abundantly, and it was difficult to see clearly

Hanken, James 1978

Journal

Hotel Mansion Imperial, Oaxaca, Est. Oaxaca, Mexico

9 Dec to the bottom of pools. The next morning we returned to Jonathan Campbell's locality 3.6 mi SW of Totontepec and Tom worked the stream turning rocks and I checked the hillsides of the ravine. Nothing was found.



turnoff in Mitla to church in Totontepec = 115 Km

Hanken, James
1978

Journal

Hotel Mansion Imperial, Oaxaca, Est. Oaxaca, Mexico

10 Dec Yesterday Tom and I took a ½ day trip to the locality above El Tejocote to try once again to get more *Thorius*. Again we were unsuccessful. The forest was very dry. As this area is lower in elevation than most *Thorius* localities in Oaxaca, dry season collecting is not possible: if I want to look again, it will have to be during or soon after the wet season. We returned to Oaxaca at mid-day and took the rest of the day off, including a visit to Monte Alban.

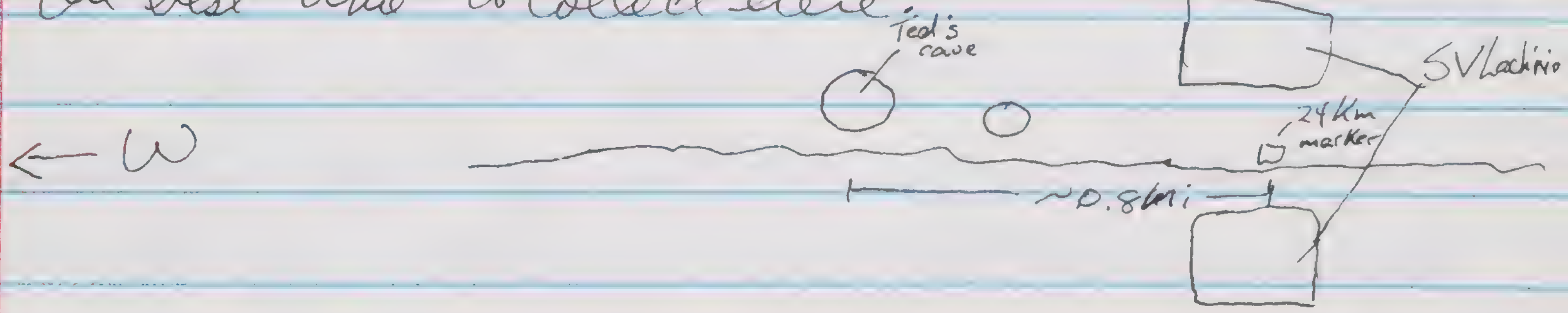
11 Dec Yesterday Tom and I visited *Thorius* localities W of San Vicente Lachixio to get samples of the second ~~Thor~~ species ~~fo~~ of which I have only two for electrophoresis. The first was 16.1 km W and I presume it to be the same place as 15.5 km W of ~~two~~ three summers ago. There is a large meadow with a small rivulet, all surrounded by pine and pine-oak woods. Fallen logs are abundant and we worked for a couple hours, finding *Thorius*, but only locally (i.e. concentrated in a few logs). The locality is very reminiscent of the locality W of Zaachila. ~~So~~ Are they both in the Sierra de la Aloapanecae. Three *Ps cochranae* and *Cerlionotus* and *Sceloporus* were also taken. The second locality is a steep, shaded slope 13.6 km W (presumably equivalent to the previous locality 13.2 km W). Again, rotting logs were abundant and we collected

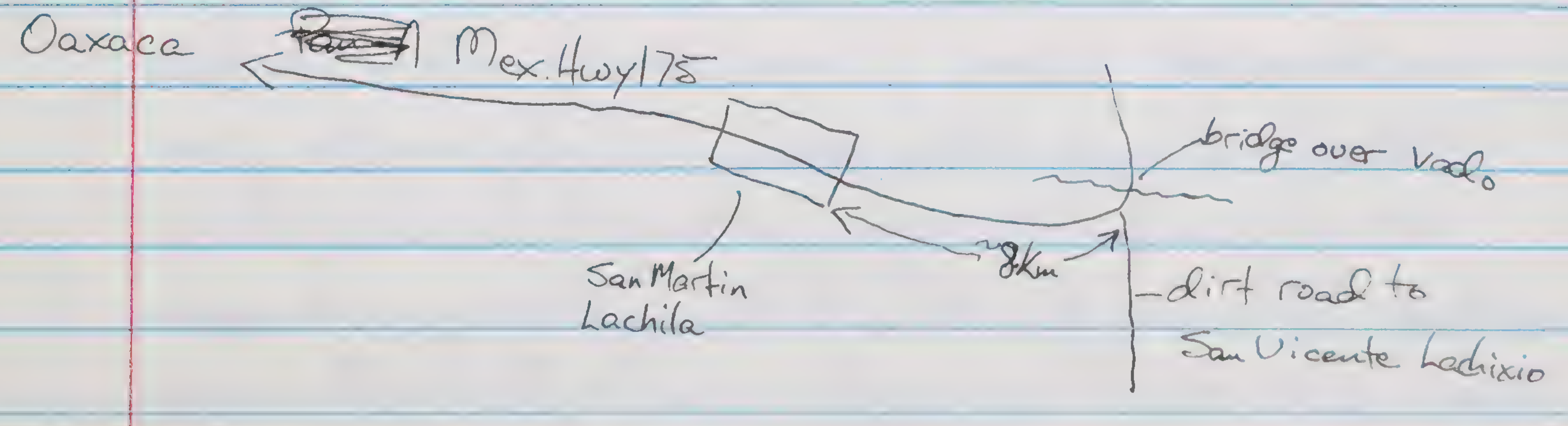
Hanken, James 1978

Journal

Hotel Mansion Imperial, Oaxaca, Est. Oaxaca, Mexico

10 Dec ~18 Thorius and one Pseud. The only hint that there might be two species in our collections was a slight variation in size among animals (see species account). Returning to SV Lachixio we waited for night fall and visited Ted Papenfuss' cave locality for P. anitae in a corn field 0.8 km W of town. If this is, in fact, his locality, the cave part off of the sinkhole has been caved-in from the recent earthquake as rocks and dirt cover the supposed opening to the cave at the bottom of the sinkhole. We did find another cave off the N side of the road less than ca 100 m. E of ~~the~~ Ted's, though. We examined it both in the morning and at night but found the cave very dry, and no salamanders present. The wet season is apparently the best time to collect here.





Hanken, James 1978

Journal

Hotel Mansion Imperial, Oaxaca, Est. Oaxaca, Mexico

13~~th~~ 4 Dec The previous two days were spent repeating the attempt made last summer to collect Thorius minutissimus at the type locality of Santo Tomas Tepan ~~in~~ near Tehuantepec. We took the dirt road ~~to~~ to Sta. Maria Ecatepec that leaves the Pan Am highway ~1½ km W of La Reforma at an elev. of ~700 m. We then dropped down to ~500 m at the river crossing after ~9 km. This time we were able to cross the river in our VW bug. The road then steeply ascends to ~1760 m at Sta Maria Ecatepec at km 30. Continuing on the road we reached S.T. Tepan after an additional 24 km where the road ends ~1 km before the town. The approx. elevation is 2200 m. Unfortunately, ~~...~~ in this whole area, the original forest has all been cut or burned previously, and either there is a ~~...~~ scrub-like vegetation of thick ~~...~~ undergrowth with scattered oaks or remnant pine forest with sparsely scattered pines with exposed ground in between. Few logs exist to turn, those present are mostly charred, the ones with good bark were either dry or, if not had no salamanders. We hiked beyond the town where the forest remnant is a bit thicker but cover is sparse (~~the people~~ were seen returning to the village with burros loaded with firewood) or dry. Despite the thick fog the area seems very dry at this time of year. The vegetation zones, though, did seem depressed in elevation, possibly

Hanken, James 1978

Journal

Hotel Mansion Imperial, Oaxaca, Est. Oaxaca, Mexico

13 Dec because of the lack of any rain shadow effect because of proximity to the ~~oce~~ oceans, such that it is easy to imagine there having been ~~thick~~ well-developed cloudforest here at one time, as Macdougall's description states. However, if similar forest exists anywhere nearby, it will require a major effort to get into such areas. Returning to the Pan-Am highway we returned to El Camaron and ~~then~~ drove towards San Carlos Yautepec hoping to get into the high mountains visible to the S. However, we were again told that passage beyond S C Yautepec requires 4-wheel drive, but that there are roads connecting many towns and forest service camps in the mountains.

14 Dec Yesterday Tom and I attempted to visit C. Bogert's *Thorius* localities 8-9 mi. W of Asuncion Mixtepec. Driving S of on Mex 175 to Pto. Escondido we turned off onto the dirt road W towards Santa Cruz Mixtepec that leaves the highway ~1 mi S of Valdeflores. The river crossing ~5 km in that prevented our travel in summer '76 was low enough to cross this time. However, the road was very pitted and rocky, and got worse as we proceeded to Asuncion Mixtepec ~~where~~ ~~it~~ above which it was impassable (at ~2000 m.). We tried ~~to~~ hiking up to favorable elevations, but after ~ 1½ hours and reaching ~2600 m we hadn't

Hanken, James 1978

Journal

Hotel Mansion Imperial, Oaxaca, Est. Oaxaca, Mexico

18 Dec yet reached the ridge nor entered the ~~wood~~ pine forest ~~w~~ visible on top. The road at this point was in generally good shape except for scattered segments which had been completely washed away. Apparently after building this road the gov't decided ~~to~~ not to maintain it, and use other routes to get to the top. Upon returning to Asuncion Mixtepec the townspeople told us that one can reach the upper area via the Zaachila road: the well-developed series of roads we found there must run S along the upper plateau to this area. ~~Th~~ The weather today was again generally clear and warm, as has been the case for most of the trip except for a few days earlier in the week which were heavily overcast and cool, with ~~a~~ little light rain encountered while in the mountains. Today we leave for Mexico City

~~17 Dec~~

17 Dec We arrived in Oaxaca the evening of the 13th and spent ~~two~~ ~~consec~~ ~~frustrating~~ the next day hassling with the permit office unsuccessfully to get my collecting permit. We drove the evening of the 15th to a spot just outside of Ayumbilla where we camped. Yesterday we worked the Lagunas del San Bernardino area to get the elusive Thorius "weirdo", (if it exists at all) and got ~60 ~~animals~~ Thorius but only one juvenile Pseudoeurycea

Hanken, James
1978

Journal

Veracruz localities:

17 ~~18~~ Dec Today we ~~made alley~~ repeated earlier attempts to get the *Thorius* "huatusco" of McDiarmid by visiting his localities but again failed. We did, however, get two salamanders, apparently *Chiropterotriton*. Later we drove to the *Thorius* locality near Teocelo visited by Sam Sweet and Ted Papenfuss, working the rocky talus above the road near the bridge as per their directions but got nothing

18 Dec This morning we worked the Barranca de San Miguel locality of Sam and Ted ~~by~~ near Coatlalpan but found no *Thorius*. We did get 3 *Parvimolge* and 2 *Lineatriton*. Following this we left Veracruz for Mexico City and the permit office.

~~21-24 Dec~~ *Ambystoma* collecting in Mexico, Hidalgo, and Michoacan

20-24 Dec For the past four days Tom and I have been visiting *Ambystoma* localities that either were unsuccessful last summer or weren't visited. ~~On 20 D~~ First we collected animals near Pachuca, at both El Chico National park and at the pond near Nopaltepec. El Chico animals were collected both during the morning (daylight) and evening (darkness) by dip-netting in the stream running through the

Hanken, James 1978

Journal

Ambystoma collecting in Mexico, Hidalgo, and Michoacan

20-24 Dec meadow beside the highway. The Nopaltepec animals were taken by seining in the small pool that was all that remained of the large pond of last summer. We next worked a locality suggested by Brad Shaffer NW of Toluca. We found small artificial muddy cattle ponds adjacent to a stream ~~bes~~ beside the highway and seined 14 larvae. The surrounding habitat is nearly devoid of trees, being mostly corn fields. The ponds would appear to be temporary; I can't imagine where the adults would take shelter. Yesterday ~~we~~ we visited several permanent and ~~te~~ temporary ponds ~12 mi. W of Morelia but found no Ambystoma, ~~alth~~ although all ponds had R. pipiens. The permanent ponds had small fish which might limit occupancy by Ambystoma. Today we drive from Morelia to Mexico City and leave tonight for the US.

Species Accounts

1973 - 1974

Thomomys bottae 1

Ken, James
1973

Mineral Springs Area, Tilden Regional Park,
Contra Costa Co, Calif.

Apr 27 9:45 AM 150 yds NE of parking area, ~1/2 way up 30° slope of mostly open grassland (3-4 ft high) and some small eucalyptus stands and poison hemlock clusters. One dead individual found on ground ~~[illegible]~~ below grass. Fur was quite matted - ~~it~~ appeared as though it had been chewed by large carnivore (dog) and then rejected. External cheek pouches and large incisors clued ID.

Hanken, James
1974

Bufo ~~b~~ boreas

Hastings Reservation, Carmel Valley, Monterey Co, Calif.

27 April ~~8~~ 8:25 P.M. One toad found in tall grass + leaf litter beside path at edge of car bridge across Big Creek just below the Griffin House. Air temp. 6" above ground = 19.1°C. There is still twilight, the sun having set over Haystack Hill ~20 minutes ago. There is a 1/4 moon.

8:30 P.M. Another toad ~~found~~ heard rustling among leaves beside the path from the lab bldg. to the bunkhouse, ~10' from the upper footbridge over Big Creek on the lab side. It was a ♀, 5.8 cm (s-v).

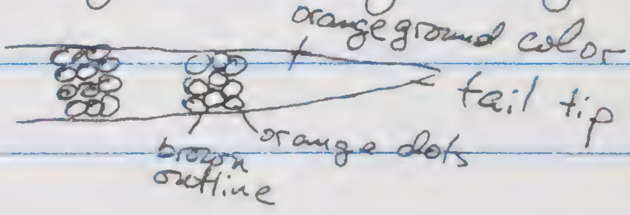
[?]en, James

1974

Chilomeniscus cinctus

El Sombrero Trailer Park, La Paz, Baja California Sur,

21 March So far seven individuals have been found by us on our trip to Baja, ~~one~~ six here in Ted Papenfuss' study area (see journal ~~p~~ 18 March) and the first one 9.3 mi N San Ynez Parador on Mex. Hwy 1, Baja Calif Norte, (17 Mar). All but one have had dark dorsal bands with the light-colored scales tinged lightly with orange; the venter is cream-colored. One individual found yesterday, however showed much more darker orange color dorsally and extending laterally onto the flanks. Also, the dorsal bands are marked by being not solid, but variously broken into a network of brown and orange. This pattern is more evident posteriorly, with the anterior bands being solid brown, and the posterior-most bands being ~~m~~ mostly orange dots surrounded by brown



Hawker, James
1974

Crotalus ruber

0.6 mi E Mex Hwy 1, on road to Observatorio Astronomico Nacionale, Baja California Norte, Mexico

28 March Found one indiv. lying stretched out in middle of road at 11:40 AM. It was in full sunlight. Air temp 1/2" above road surface was 27.0°C. Soil temp. at surface = 36.2°C. The snake's reddish color matched well the background color provided by the red earth of the road bed.

Hanken, James
1974

Crotalus viridis

Hastings Natural History Reservation, Carmel Valley, Monterey Co, California

26 April 4:15 PM. A rattler was found coiled in the grass of Pearson Field, 250' up the slope from Big Creek, at right angles, relative to the creek, from Rong Field Marker #18. The snake did not rattle its tail, nor move in any other noticeable way when being encountered, and I ~~would~~ had gotten within two feet of it, and probably would have stepped on it, had I not seen it in my path. The snake superficially resembled a ~~sn~~ large melanistic garter snake (keeled dorsal scales + broad head) and I, ~~had~~ ~~der~~ almost ~~unknow~~ instinctively, started to reach~~ed~~ down to pick it up before I realized that it was a rattlesnake. ~~Its~~ Its coloration at first seemed almost a solid dark gray - only when I prodded it with a stick and it stretched out did I see the faint ~~dorsal~~ light outlines surrounding the dorsal blotches. It was ~ 2 ft. in total length. As already said, it remained essentially motionless when first encountered, and remained that way for another minute or two while I went to look for a stick. Once prodded it entered a small rodent burrow which it had been lying next to, rattling its tail while doing so. The weather ~~has~~ today has been overcast and cold for most of the day until about an hour ago when the sun broke through in spots and ~~it~~ the temp. warmed slightly.

Hawken, James

1974

Crotalus viridis

Hastings Natural History Reservation, Carmel Valley, Monterey Co, Calif

26 April Because of this I believe that the snake had come out of the burrow to which it later retreated only a short while before I arrived, and was in the process of thermoregulating in the sunlight, trying to get its ~~to~~ body temp. up. This would explain its apparent lethargy during the encounter.

7 May Two individuals were found in separate instances during my study of the E Haystack Hill area today. In both cases the snakes were ~~~~ found in the shade (underneath) of ~~the~~ low-hanging (1-2' off the ground) limbs of fallen dead oak trees in ~~the~~ savanna regions. Both cases were in the mid-afternoon when the sun was high in the sky and temperatures warm (see data sheets of this day for details) and the snakes were, apparently, seeking shelter from the high temperatures. The snakes were, actually, never seen due to the high grass at these ~~~~ locations, but the rattle was distinctive. In both cases the snakes didn't rattle until I was standing on the limbs above them. Several rodent burrows ~~~~ were seen associated with ~~the~~ these fallen trees, both below ~~the~~ the trees and in the immediate vicinity — presumably the area provides the snakes with not only shade from the sun, but food (rodents) as well.

Hanken, James
1974

Dermochelys coriacea

~~[illegible]~~ Green Turtle Station, Ogleu, Tortuguero, Costa Rica

13 July One ♀ nested night of 11 July at ~ mile # 3 3/8. depression in sand near nest site indicated a ~~[illegible]~~ distance between laterally extended front flippers of ~ 7 1/2 feet. The eggs were dug up and re-buried in the sand in front of the station (mile # 6/8) to prevent poaching. Ninety-one eggs were found, all but a few were ~ 2" in diameter (spherical). The remaing few were appreciably smaller and were not reburied. The village kids who helped us dig the eggs ~~[illegible]~~ explained that these smaller eggs will not develop because they have no yolk.

5 August David & Chuck Carr found one live hatchling on the morning of 2 August ~~on the~~ while tagging on the Sand of the 5 mile stretch of beach. ~~It was~~ They first found some dead hatchlings on the sand indicating recent emergence ~~and~~ found the nest, ~~and~~ dug down and found one remaining hatchling, alive. It was brought back to the station and placed in a small washtub (~1 1/2' × 2') in ~1' of sea water. During daylight ~~hours~~ hours since that time until the present the turtle has been ~~swim~~ in the "infantile frenzy", ~~swim~~ constantly moving its flippers and butting up against the sides of the ~~tub~~ tub. There has been no evident compass orientation of direction with the turtle

Hanken, James
1974

Dermochelys coriacea

Green Turtle Station, sea level, Tortuguero, Costa Rica

5 August frequently found at different points along the ~~frequently~~ perimeter of the tub. ~~[illegible]~~ The "frenzy" was maintained at an almost constant fast rate for the first few days but by 4 August ~~4th~~ a decrease in the rate was detected. Today the hatchling was still swimming constantly, but at a slower rate. During this time the turtle has had essentially no nourishment, its only food being a small piece of   given it   by Chuck Carr. ~~All of these observations~~ This account has been made solely from casual observation of the turtle made when I've walked past it ~~by the~~ behind the station in these last few days.

ankEn, James

1974

Hypsiglena torquata

El Sombrero Trailer Park, La Paz, Baja California Sur

21 Mar One individual was uncovered yesterday ~~and~~ ~~[illegible]~~ in Ted Papenfuss study area while digging for *Bipes biporus* (see journal 20 Mar). It was different from the individuals which I have seen in California in that the dark dorsal ~~blotches~~ blotches in the neck region are separate and not connected ~~[illegible]~~ to each other dorsally. I am told, however, that this pattern does appear in California, in addition to the one where the blotches are connected.

Ken, James
1974

Mephitis mephitis

Hastings Natural History Reservation, Carmel Valley, Monterey Co, Calif

8 Mar 3PM. fence running east-west ~~[illegible]~~ N of Haystack Hill. One indiv was spotted under a nearby oak (Q. lobata) while I was checking a log for lizards. It was apparently foraging by walking through the litter with its snout to the ground. When I was spotted ~10 yds away it suddenly lifted its head in my direction and raised its tail to a straight vertical position. A second later the tail was lowered to a horiz. position, but with fur erect. I moved off 5 yds and sat down to write these notes. The skunk held its position for ~30 seconds, then turned to begin foraging again in another direction. (See journal entry for other info.)

Hanken, James
1974

Pituophis melanoleucus

Hastings Natural History Reservation, Carmel Valley, Monterey Co, Calif

2 May 2:00PM - NW-side lower footbridge across Big Creek by toolshed. Small gopher snake (18" total length) found lying in path in shade of Quercus agrifolia. Upon my discovering it and ~~stoop~~ reaching down to pick it up, the snake proceeded to give an aggressive defensive reaction, making it appear quite like a ~~reaction~~ rattlesnake. I had heard about this type reaction before today, but never witnessed it myself. The snake coiled up with ~~a~~ the anterior one-third of its body raised off the ground and facing me. The tip of the tail was ~~also~~ uplifted slightly and vibrating - would probably have made a noise if in leaf litter. The most remarkable feature, though, was the head shape, which appeared triangular ~~like~~ as in vipers. When I brought my hand close to the snake it lunged at my hand with mouth open ~~and~~, making a hissing sound at the same time. After finally picking up the snake (which involved at least one bite to my hand), I discovered that the ~~tri~~ triangular head shape had disappeared, it being a result of the ability of the snake to manipulate its lower jaw rami ~~to~~ in such a way that they point out laterally at the rear, giving the head a triangular shape. This particular reaction can be ~~giv~~ evidently given at will by the snake, depending ~~on~~ on its arousal state. The snake showed no signs of having recently fed, and attempts to get it to

Hanken, James
1974

Pituophis melanoleucus

Hastings ~~Re~~ Natural History Reservation, Carmel Valley, Monterey Co, Calif

2 May regurgitate stomach contents were unsuccessful. I ~~kept~~ placed the snake in a can to show Mike Macroberts later, and I thought that the snake might act ~~diffe~~ less aggressively later, ~~a~~ after being kept in a cooler place (~~tem~~ air temp at 2PM was 16.5°C). This presumption proved to be incorrect, for upon showing the snake to Mike at ~5:45 PM, with the snake much cooler, it produced the same aggressive reaction. This is the first snake of this species that I have seen yet this year at Hastings. Possibly this individual had just emerged from hibernation and had not yet fed since emerging, which might explain this highly aggressive defensive reaction.

Species Accounts

1976

Hanken, James 1976

~~Ø~~ Thorius

Hotel Berthangel, ~~Thorius~~ Catemaco, Est. Veracruz, Mexico

6 February Volcan San Martin - coll. 5 February:
venter dark with fine white flecking
dorsal stripe brownish w/ fine black + brown checkerboard ~~to~~ pattern (herringbone)

Cuatlapan -
coloration above + below similar to Volcan San Martin; also small legs + feet

~~Logg~~ Road cut at ~~Zon~~ past San Felipe:
- taken from road bank or under logs
- bigger species with some obviously gravid females
- apparently only one type: bigger feet + ~~lim~~ limbs
- variable dorsal ~~olive~~ stripe: olive, brick, tan
- ventral surface dark but more transparent with speckling of white (finer than above ~~spec~~ localities), more ventro-laterally than along mid-line

Lagunas San Bernardino locality:
only one ~~species~~ morph recognizable - same as above locality

Hanken,
James
1976

<u>Thorius</u>

<u>Hotel Berthangel, Catemaco, Est. Veracruz, Mexico</u>

6 February <u>Pine forest near Termola</u>:

only one morph, an enormous <u>Thorius</u> with large ~~feet~~ limbs and toes
- some w/ characteristic dorsal stripe, but others almost totally ~~d~~ dark above as well as below – Does stripe disappear w/age
- numerous gravid females

<u>El Berro Pine forest</u>:

locality is near ~~one~~ the one above and the animals show the same general ~~str~~ trends (larger limbs and feet), but don't reach the great size as the pop. above – Are the limbs relatively as long?

<u>Puerto del Aire</u>: 2 species sympatric on the ground?

Hanken, James 1976

Thorius

Hotel Primavera, Oaxaca Est. Oaxaca, Mexico (53.8 km N Guelatao)

11 February M3249 - lone Thorius from this locality - found under log at roadside
- large sub-narial swellings
- venter black w/ conspicuous white splotches
- small hands + feet
- dull brownish stripe

M3470 - lone Th. from this locality (52 km N Guelatao)
found under log in forest
- larger than above specimen which is adult and hence larger hands + feet - difficult to tell proportions
- venter lighter - more translucent - with no spotting
- beautiful tannish stripe

M3438 (37 km N of Guelatao)
- similar in dimensions and color to M3249 above
- found in rotting log

M3461-3468 (~~[illegible]~~ 1.0 km N of Cerro Pelon)
- at least one similar to M3470, others have darker belly with speckling
F34 - dark belly
F36 - pale " , similar to one kept alive
F35 (4 sals) speckled belly

Hanken, James

1976

Thorius

~~M3266~~ Hotel Primavera, Oaxaca, ~~Mex~~ Est. Oaxaca, Mexico

11 February M3268-M3299 - Only one morph readily distinguished - with dark belly with white flecking
- others w/ paler bellies are obviously gravid females
- ~~some~~ at least some mature ♂'s smaller than gravid ♀'s
- 7 preserved in form - mostly gravid ♀'s
25 frozen F 37-41

M3234 - in bromeliad F42

M3235-6 under logs F43
- apparently same morph but frozen separately
- venter palish w/ slight white speckling
- brownish stripe w/ herring-bone pattern
- small: including one mature male

mistake - see Hanken catalog = M3208

(M3205) - Vista Hermosa (F44)
- taken in high bromeliad w/ a Chiropterotriton
- venter ~~da~~ black w/ conspicuous white flecking, especially around chin
- dorsal stripe brownish, ~~forming~~ pinching in between shoulders, and forming a wavy edge behind each eye
- feet + limbs slightly larger than others in ~~recent~~ days this area

Hanken, James 1976

Thorius

Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

11 February M3442-3457 - Machin
- all of apparently same morph with black venter with white ~~fl~~ flecking: again, several gravid ♀'s with lighter venters
- dorsal stripe primarily dull brown
4 pickled, 12 frozen - F45, 46, 47
M3458 ≡ F30 - frozen because near death
M3459-60 ← F48 - found inside fallen bromeliads in same habitat as above
- resembles others above - one gravid ♀

M2938-2978 - Puerto del Aire
- only one morph readily distinguishable
- larger with large feet + limbs, but the latter character may be more just an allometric function of the former and not really represent relatively larger limbs
- belly dark with fine light speckling, not splotch-like as in several of the Cerro-Pelon pops.
- several gravid ♀'s - at least 1/4 of all animals show eggs through the venter
- no bromeliad Th were taken from this locality although there have been in the past (different sp.?)

Hanken, James 1976

Thorius

Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

11 February Llano de las Flores: M3302-3415

114 Th. collected in one small ~~area~~ wooded area adjacent to the large clearing, including 43 Th. collected under one log.

- all seem the same with ~~dark~~ a black belly with intermediate whitish flecking except for two extremely large indivs which stand out as being much larger and stockier although limb proportions seem the same as the smaller indivs.
- this is the only sign of two species which I can see at this point
- 10 ~~~~ representatives of the smaller size class have been frozen (F55 + F56), all with evident hedonic glands
- one of the 2 larger forms is frozen as F57, the other will be kept alive
- a few gravid females ~~~~ were evident and some of these pickled with a more or less random sample of others.
- an additional few animals of the small morph not showing mental glands were frozen ~~pickled~~ as F58

Hanken, James 1976

Thorius

Hotel Primavera, Oaxaca, Est. Oaxaca, Mexico

12 February Cerro San Felipe – 15 km W La Cumbre:
- only one morph readily distinguishable, usually with brick-red dorsal stripe (lost to some extent in the largest specimens)
- large limbs + feet
- marked sexual dimorphism w/ gravid ~~♂~~ ♀'s much larger than ♂'s w/ mental glands
- belly black w/white speckling
- 3 gravid ♀'s, the largest of all taken, ~~frozen~~ pickled the remaining 20 frozen
- as a whole, this morph is larger in total ~~body~~ size than most others (the few smaller indivs. are thought young of this morph

Cerro San Felipe – 12.4 km W La Cumbre
- apparently same pop. as above
- 20 animals frozen F 75-79; 6 left alive, including 4 gravid ♀'s, 2 ♂'s

Cerro San Felipe – 9 km. W La Cumbre
- only seven indivs. found, of apparently different morph than the two above
- generally smaller body size (can only tell from mature ♂'s as gravid ♀'s are not present)
- ventral pattern black w/finer and paler

Hanken,
James
1976

Thorius

Hotel Primavera, Oaxaca Est. Oaxaca, Mexico

12 February speckling than above two morphs
- dorsal stripe variable - some red, some tan, some almost black
- all seven frozen F80-81

Cerro San Felipe - 4 km W La Cumbre
- all but one seem to be of a small morph of similar to that of the above locality, the exception being an enormous gravid ♀ - Can the dimorphism be this great?
- special ♀ frozen separately as F82; the remaining nine frozen as F83-84
*note - on closer examination, the ~~eight~~ nine smaller indivs can be divided into two groups, one more robust than the other, and were frozen in groups: F83-robust, F84-other

Hanken, James 1976

Thorius sp.

Hotel Aguas Calientes, Est. Mexico, Mexico

18 February

15 km NE ~~Zoquitlan~~ ~~15 Feb~~ Santos Reyes Papalo - 15 Feb

- five sals taken under bark on pine logs in small ~~clearing~~ clearing along road on NE-facing slope (E of divide) ~~small stand by road~~
- includes ~~six~~ two ~~very~~ small juvs.
- ventral color brownish w/ white splotches
- dorsal stripe interrupted by median dark stripe in juvs, reducing to dark herring-bone pattern down back in adult

10 km W Zoquitlan - 16 Feb

- 4 ♀'s - all gravid ; 2 mature ♂'s
- six sals taken under bark on pine logs ~~in~~ among small stand by road
- ♂ ventral color brownish w/ little white
  ♀ " " " w/ light spotting
- red dorsal stripe

11 km NE Santos Reyes Papalo - 15 Feb

- not looked at closely while freezing, but looked generally smaller in size

8 km NE Santos Reyes Papalo - 15 Feb

- looked at quickly while freezing
- ~~large~~ small morph as above, including some gravid which were frozen (see catalogue)
- also, large gravid ♀'s - also frozen - 2 species?

Hanken,
James
1976

Thorius sp.

Hotel Aguas Caliente, Est. Mexico, Mexico

18 February 9 km (E) of Zozutlan -16 Feb

- all collected on steep, shaded E-facing slope mostly of tall, dense oaks but with much pine needles in litter indicating former greater presence of pines
- apparently one morph, ~~to~~ ~~both~~ Brad and I independently noticed broader heads vs. other *Thorius*
- 25 frozen - mostly smaller indiv's (juveniles?) because of large percentage of larger, gravid ♀'s

Hanken, James 1976

Atelopus sp.

~~Ha~~ MVZ, Berkeley, Calif, USA 94720

22 April 12 Noon - The 2 Atelopus ~~from~~ which I collected last summer in Western Panama and have been kept alive in Dave Wake's lab were found in amplexus this morning. Below I have recounted observations made on them, so far:

~~[illegible]~~ ~8:10 AM - I entered Dave Wake's lab and noticed the 2 Atelopus in amplexus in a corner of their plastic tray. They were positioned on a flat moist paper towel - there was a crumpled paper towel at the other end of the tray. The ♂ was immobile while on top of the female, not noticeably constricting her w/ his limbs. The ♂ was more towards the ant. end of the ♀ with his fore limbs behind those of the ♀. Because of the ~~♂~~ much smaller size of the ♂ his rump reached only to a point ~2/3 of the way back along the ♀'s dorsum. Both animals ~~were~~ long. axis were in the same direction but the ♂ was positioned a bit off center of the ♀ to his left. The ♀ was not attempting to shake off the ♂, but she was moving her hind limbs in a peculiar fashion; alternately lifting each hind limb off the ground in a semi-extended position for a second or two while the distal tips of the limbs vibrated at a slow rate. Occasionally both hind limbs were lifted simultaneously. These leg lifts were consecutive,

Hanken, James 1976

Atelopus sp

MVZ, Berkeley, CA,

22 April there being little pause between successive leg lifts. The ♀ did not attempt to walk

8:30 AM - The above behavior ~~to~~ continued until I moved the plastic tray with the frogs in order to put some ~~water~~ standing water in one end by propping one end of the tray up and gently pouring in water. The ♀ stopped moving upon my handling of the tray and the ♂ separated while water was poured in the tray. They remained separate and behaved as usual, e.g. climbing the walls of the tray.

10:30 AM - The frogs were placed in a different tray w/ a flat moist paper towel along the ~~[illegible]~~ bottom and a crumpled towel at one end (no standing water) and put back in the corner of the room.

12:15 PM - The frogs have not amplexed again and are behaving normally except for the ♂ which maintains a ~~[illegible]~~ ~~[illegible]~~ ~~[illegible]~~ crouch w/ his ~~[illegible]~~ front end and head pressed against the substrate making a low profile in the corner of the tray for several minutes at a time. Whenever the ♀ leans up against the wall eggs ~~[illegible]~~ may be seen swollen in her abdomen. Occasionally the two animals may be found physically touching, but for the most part their

Hanken, James 1976

Atelopus sp.

MVZ, Berkeley, Calif

22 April movements are independent and these moments of contact seem accidental

~~W~~ Kay James told me this morning of having heard a frog calling in the lab las Thursday or Friday (15th or 16th) but not being able to trace it to an ~~animal~~ individual animal(s). Presumably this was the Atelopus as there are no other frogs in the lab. Also, the frogs don't seem to mind much disturbance as there ~~are~~ is usually ~~constantly~~ people working in the lab or coming in + out during the day. ~~and the~~ The frogs' ~~cage~~ container was cleaned yesterday and the frogs last fed yesterday afternoon.

Hanken, James 1976

Thorius sp.

Hotel Primavera, Est. Oaxaca, Mexico

14 July 4.2 mi. S La Cumbre - collected at elev. 7160'

- apparently pulmonaris
- brick-red ~~to~~ or tan-brown dorsal stripe
- venter (incl. throat) dark w/ whitish flecks

4 Km W La Cumbre - T. narisovalis

- larger than above, w/ broader head, less pointed snout
- dorsal stripe brick red, tan-brown, and some melanistic
- venter dark ~~w/~~ but differing from above in lack of conspicuous white flecking (w/ some exceptions - animals w/ flecking

F248

15 July ~20 Km S Sola de Vega, Sierra Madre del Sur

- resembles T. pulmonaris in small size and large nostril, also ventral coloration w/ whitish flecking slightly less conspicuous (see above 4.2 mi. S La Cumbre)
- has been referred to T. minutissimus because of proximity to type locality but might be ~~T.~~ pulmonaris of C. San Felipe and S. de Cuatro Venados
- unusually long tail?

Hanken, James 1976

~~[illegible]~~ Thorius sp.

Hotel Margarita, Est. Oaxaca, Mexico

16 July 7.2 mi (by road) N of Suchixtepec

- pulmonaris-like: large nostril, small size, venter w/ whitish flecking
- white flecking also noticeable on dorsum (especially head) when animal wet - not known whether it was present on those from other localities

Hanken, James

1976

Thorius sp.

Hotel Margarita, Oaxaca, Mexico

16 July San Vicente Lachixio -

- pulmonaris - like, only bigger
- all with ~~do~~ brownish dorsal stripe and faint white speckling on dorsum
- venter same as other supposed pulmonaris thus far: dark, although thin and thus somewhat transparent revealing viscera, and scattered light flecking on ~~d~~ venter

17 July San Juan del Estado

- pulmonaris - like (see general description for others)
- only one animal, with only part of a tail
- dorsal stripe dark brown, not contrasting terribly much with the ~~ta~~ dark sides - chevrons even darker
- ~~ven~~ venter as San Vicente Lachixio locality

18 July El Tejocote

- one animal, pulmonaris - like
- dorsal stripe brown w/ darker chevrons, edged in black contrasting w/ gray flanks
- venter same as above

Hanken, James

1976

Thorius sp.

21 July Hotel Maria des Lourdes, Tuxtepec, Est. Oaxaca, Mexico

6.4 ~~7.4~~ mi. (by road) N Guelatao

- relatively small + slender, although apparently an adult
- dorsal stripe reddish-brown w/ dark chevrons
- abnormal growths on left side of head behind eye and on right knee joint
- nostril oval, but not as large as pulmonaris
- venter dark w/ white flecking

12.8 ~~13.5~~ mi. (by road) N Guelatao

- ~~S~~same as above, w/ lighter, reddish mark in dorsal midline on nape in front of shoulders

14.0 ~~14.6~~ ~~20.5~~ mi (by road) N Guelatao

- Same as 13.5 mi N Guelatao

~~19.5~~ 18.9 ~~25.4~~ ~~24.5~~ mi (by road) N Guelatao

- two species, one same as above
- the other larger, more robust, inconspicuous dark dorsal stripe, dark venter w/ faint speckling, smallish nostril

23.3 ~~23.9~~ ~~29.8~~ mi ~~(by~~ N Guelatao ~~)~~

- smaller of above two species

Hanken, James
1976

Thorius sp.

~~15~~ 15.5
~~16.0~~
~~15.5~~ mi. N Guelatao
- two species, large + small morphs, same two as 24.5 mi. N Guelatao
- larger morph can have reddish stripe

14.3 ~~14.9~~
~~13.8~~ mi N Guelatao
- all small morph species

28.5
~~29.4~~ mi. N Guelatao
- small morph species

20 July 1.8 mi. W Machin
- one species, small morph

23 July forest above Xometla
two species!
T. spilogaster
- same one as El Bero
- faint, brassy dorsal stripe
- faint whitish speckling on dark venter
- no lateral flecking (chromatophores)
- robust

Thorius sp.
- dorsal stripe brown → tan → goldish
- conspicuous whitish flecking ventrally + laterally
- robust

Hanken, James 1976

Thorius sp.

Hotel Mayaga, Fortin de las Flores, Est. Veracruz, Mexico

24 July — 0.7 mi W Puerto del Aire
- one animal
- resembles morph at Lagunas San Bernardino in large size, dark brick-red stripe, and ~~[illegible]~~ dark venter + sides w/out white flecking

24 July — 3.2 km S Puerto del Aire
- two sp., one in bromeliad, the other terrestrial:
  1) T. dubitus
  - 8 taken in bromeliads
  - 5 with coppery-colored dorsal stripe w/ conspicuous herring-bone pattern
  - 1 with coppery color faded
  - 2 w/ gold stripe, one w/ no tail, the other w/ tail almost entirely gold
  - tail laterally compressed, in some w/ dorsal keel; generally long + slender
  - venter dark w/ no flecking
  - long limbs, + large feet

21 July — 33.5 mi. W Guelatao
- rel/large species
- most w/ gold dorsal stripe, either solid or variably interrupted by dark markings in midline
- venter pale, sides w/ light flecking
- Feet small

24 July 3.2 Km S Puerto del Aire (cont'd)

2) T. troglodytes
- generally larger than bromeliad animals
- dorsal stripe brick-red (most) or greenish (few)
- found terrestrially

3) ten other animals (M5545-5554) frozen as F457 + F463 because of heeled tail and possible identity w/ the bromeliad animals
- however, their color was for the most part w/ a greenish dorsal stripe and the heel was sometimes faint, unlike the bromeliad animals -
- test electrophoretically for their identity w/ to either of the two groups
- these animals were collected with the others on the ground

Hanken, James 1976

Thorius sp.

Hotel Mayorga, Fortin de las Flores, Est. Veracruz, Mexico

2 August Asoleadero

- good-sized Thorius
- head broad but not long w/ blunt snout
- oval nostril
- dorsal stripe brick red → brown → sometimes tan, w/ at least one indiv. w/ stripe faint (almost spilogaster-like)
- great deal of whitish flecking on venter ~~and~~ and sides

Species Accounts

1977 - 1978

Hanken, James 1977

B. subpalmata

Color notes

28 Sept 22 Km S El Empalme, 14 Sept 1977, JH 367-381

Highly variable coloration - best ~~described~~ told by ~~so~~ describing several individuals

#1 - brown dorsal ground color; limbs orangeish w/some brown blotches; small lightish flecks forming irregular dorsolateral stripes from behind eye to near hind limbs; larger white blotches dorsolaterally just in front of and behind hind limbs and extending onto venter which is otherwise dark brown

#2 - dark brown ground color; limbs ~~bright~~ brick red, also red patches ~~on nape~~ dorsolaterally on nape and snout and ~~so~~ occasionally ~~the~~ along flanks; white blotches as in #1, dorsally on tail

#3 - dark brown ground color unbroken except for yellow-orange on fore-limbs, broken with brown on hind limbs

#4 - dark brown ground color; no orange on limbs; light tan flecking extensive on head and, less so, dorsally extending onto tail

#5 - dark brown ground color, broken dorsally w/ irregular mottling of ~~brown~~ dull reddish " color also ~~extra~~ extending onto limbs

Hanken, James
1978

Thorius sp.

~16 mi W Zaachila

27 June Six animals. Two sp. at this locality, but can't readily ID two morphs based on color. Usual *Thorius* pattern of reddish dorsal stripe (one animal w/ chevron markings), and dark venter and sides w/ faint ~~tight~~ light flecking. One animal has somewhat reduced stripe w/ light flecking instead which might suggest a different sp., but it has a typical red spot on the nape shared by one or two of the remaining five with "good" stripes

2 July 2.1 mi S La Cumbre - *T. pulmonaris* (?)
- 3 animals, with dorsal stripes of brick red, dark brown, and light brown color. All stripes with herring-bone pattern. All animals have red spot on nape. Body habitus is spindly: long, skinny tail and trunk. Venter dark with fine light speckling

29.1 mi N Guelatao - *T.* sp. "lg dark"
- 3 animals, all very similar. Broad dorsal stripe, not very conspicuous because of dark brown color and herring-bone pattern. Venter black w/ slight, very-fine light speckling. Robust habitus

Hanken, James 1978

Thorius sp.

~10 mi. W, San Vicente Lachixio, Oaxaca

2 July 4 animals, all very similar in coloration. Brown dorsal stripe, edged laterally by fine light margin, "pinched" at shoulder. Venter dark, w/ light speckling. Generally undistinguished.

4 July 12.5 mi SW Totontepec, Est. Oaxaca, Oaxaca
1 animal. Generally undistinguished. Resembles T. macdougalli of C. Pelon most closely because of generally small size (but robust nonetheless) moderately sized nostril, and especially the red spot on the nape. Dorsal stripe dark brown-red, w/slight chevron markings, "pinched" at shoulders but still not as ornate as T. sp. "cloud". Venter dark w/rel/extensive white flecking, almost forming white patches.

54 Km N Guelatao, Est Oaxaca, Mexico
8 July Brad and I collected three animals here which by their general small size and reddish dorsal stripe resemble Thorius sp. "cloud". However, only one animal has the ~~ornamentation~~ ornate pattern (pinched) in the stripe over the shoulder characteristic of the species, while the remaining two animals have a ~~?~~ normal stripe. The animals were frozen separately for electrophoretic ID

Hanken, James 1978

Thorius sp.

25 km W of Zaachila:

6 Dec Nothing unusual: red-striped or melanistic dorsally; all but one have very faint light flecking ventrally - the exceptional animal has a solid dark venter ♀; most have red spot on nape - exceptional animal above does not (is it the second species?)

W of San Vicente Lachixio

10 Dec Presumably two species are represented as this is a sympatric locality. No obvious character allowed separation into two groups, though. However, Tom Hetherington noticed that most of the animals at 13.2 W were noticeably larger than those at 15.5 km W. Are these just large gravid ♀'s of only one species or are the two species differentiable by body size?

2033 33